

Perspectives of Survivors on Military Suicide Decedents' Life Stressors and Male Gender Role  
Stress using the Male Gender Role Stressor Inventory (MGRSI)

by

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Master's Thesis submitted to the faculty of the  
Department of Medical and Clinical Psychology  
Graduate Program at the  
Uniformed Services University  
in partial fulfillment of the requirements for the  
degree of Masters of Science  
2012

## **Acknowledgements**

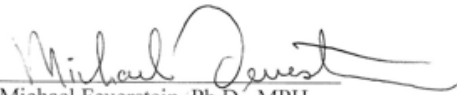
I would like to thank Dr. Holloway and my thesis committee, as well as family and friends, for their invaluable support.

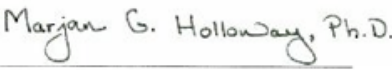
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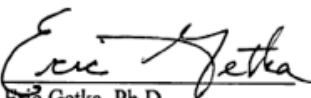
Title of Thesis: Perspectives of Survivors on Military Suicide Decedents' Life Stressors  
and Male Gender Role Stress using the Male Gender Role Stressor  
Inventory (MGRSI)

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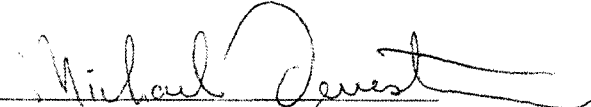
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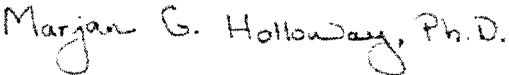
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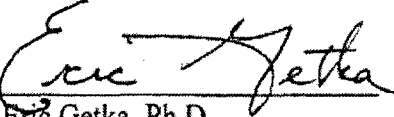
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## Abstract

Title of Thesis: PERSPECTIVES OF SURVIVORS ON MILITARY SUICIDE  
DECEDENTS' LIFE STRESSORS AND MALE GENDER ROLE  
STRESS USING THE MALE GENDER ROLE STRESSOR  
INVENTORY (MGRSI)

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**Background:** Male gender remains an important risk factor for suicide in the United States military such that military males are six times more likely to die by suicide compared with military females (DoD, 2011; Hyman, Ireland, Frost, & Cottrell, 2012). Military men who die by suicide face a number of life stressors and unique service-related challenges, many of which can be associated with one's gender and rigid beliefs about masculinity. To date, no research on male gender role stressors in the context of military suicide has been conducted. Survivors of military suicide can uniquely contribute to the scientific understanding of the association between observed male gender role stressors and other life stressors shortly prior to death. **Purpose:** This study aimed (1) to develop and evaluate an instrument for the measurement of male gender role stress in military personnel; and (2) to determine the association between male gender role stress and other life stressors at one-month and one-year prior to suicide, based on self-report information collected from military suicide survivors. Male gender role stress was expected to positively correlate with relational, financial, legal, trauma, and global life stressors prior to suicide. **Method:** A total of 68 surviving family members and/or friends of male military suicide decedents completed a series of anonymous questionnaires that evaluated their perspective and observations of the service member at one-month and one-year prior to death. The Male Gender Role Stressor Inventory (MGRSI) was developed and pilot tested as an instrument to measure stressors specifically associated with male gender. **Results:** Survivors who responded to the study questionnaires were mostly female (86%), between the ages of 22 to 74, primarily Caucasian (92%), and most often a parent (44%) or significant other (29%), with approximately one out of every five respondents living with the decedent at the time of his or her death. The MGRSI indicated that factors such as honor, strength, and achievement were the most commonly reported sources of male gender role stress for the suicide decedents. Good internal reliability ( $\alpha = .76$ ) was obtained for the newly developed measure and the deletion of the weakest item only marginally increased the internal reliability ( $\alpha = .78$ ). The trauma life stressor index at 1-month prior to suicide was significantly correlated with the MGRSI total score,  $r(49) = .34, p < .05$ . More specifically, death of a military peer,  $r(49) = .55, p < .05$ , and exposure to violence against

civilians,  $r(49) = .63, p < .01$ , at one-month prior to suicide showed significant and moderate correlations with the MGRSI total score. In addition to trauma, legal stressors at one-month prior to suicide were also significantly correlated with the MGRSI total score,  $r(49) = .31, p < .05$ . Specifically, divorce proceedings,  $r(49) = .57, p < .05$ , at 1-month prior to suicide were significantly and moderately correlated with the MGRSI total score. Divorce proceedings were also found as the only life stressor, at the 1-year timeframe, to be significantly correlated with the MGRSI total score,  $r(49) = .50, p < .05$  **Conclusion:** Male gender role stress may be a helpful construct for better understanding male suicides in the U.S. military. Further research on the MGRSI is needed to advance the psychometrics of the measure. Overall, male gender role stress shows associations with trauma and legal problems shortly prior to suicide. The Department of Defense may benefit from targeted suicide prevention and anti-stigma public health campaigns, intervention, and postvention programs that target rigid male gender role beliefs (e.g., I must solve my own problems) and male-specific stressors (e.g., appearing stoic).

**Keywords:** Suicide, Male, Military, Gender Role Stress



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## **Background**

### **Public Health Significance of Suicide for Men**

In 2008, suicide among adults aged 18 and older in the United States (U.S.) accounted for 35,045 deaths (Center for Disease Control [CDC], 2011). Further, suicide-related ideation and behaviors resulted in 323,342 emergency department visits and 197,838 hospitalizations (CDC, 2011). In terms of economic burden, medical costs and lost productivity associated with suicide amount to \$33 billion per year (Corso, Mercy, Simon, Finkelstein, & Miller, 2007). Suicide is a major public health problem for males in general (CDC, 2011; Nock, Borges, Bromet, Cha, Kessler, & Lee, 2008; World Health Organization [WHO], 2006) and males in the military (Martin, Ghahramanlou-Holloway, Lou, & Tucciarone, 2009).

Across all ages, suicide is the 7<sup>th</sup> leading cause of death for U.S. men and the 2<sup>nd</sup> leading cause of death for men between the ages 15 and 44 (CDC, 2011). Suicide has historically been the 2<sup>nd</sup> leading cause of death in the military (Ritchie, Keppler, & Rothberg, 2003), with the 2009 branch-specific suicide death rates (per 100,000) as follows: 15.51 for the Air Force, 21.72 for the Army, 17.21 for the Marine Corps, and 11.08 for the Navy (Reger, Gahm, Kinn, Luxton, & Skopp, 2011). Fifty percent of the U.S. active duty military consists of males between 17-26 years old (Eaton, Messer, Garvey & Hogue, 2006) and in 2008, U.S. Army suicide rates surpassed age-adjusted population norms for the first time (Gahm & Reger, 2008). Furthermore, mental health problems, including suicide related behaviors, are the leading cause of hospitalization for men in the military (Hoge, Messer, & Engel, 2003).

In the U.S., the suicide risk for men is quadruple that of women (CDC, 2011), and ninety-five percent of all deaths by suicide in the U.S. military involve the loss of a male service member (Reger et al., 2011). The most common method for suicide in the U.S. military involves the use of a non-military issued firearm (48.4% of cases), which is considered one of the most

lethal means of killing oneself (Reger et al., 2011). Hanging is the second most common method of suicide (24.6% of cases) followed by the use a military issued firearm (13.9% of cases; Reger et al., 2011). For those men who survive a suicide attempt, many express a significant desire to die following their attempt (Nock, Borges, Bromet, Cha, Kessler, & Lee, 2008; Nock & Kessler, 2006).

### **Male Gender Role Stress as a Framework for Understanding Male Suicide**

Male gender role stress has traditionally been discussed in the context of male gender role conflict (MGRC) which refers to “a psychological state in which socialized gender roles have negative consequences for the person or others” (p. 362, O’Neil, 2008) and may be experienced cognitively (consciously and/or unconsciously), emotionally, and behaviorally. Four contexts have been articulated in which MGRC occurs: (1) gender role transitions (e.g., puberty, marriage, fatherhood) in which gender-based assumptions are challenged; (2) intrapersonally; (3) interpersonally—toward others; and (d) interpersonally—from others (O’Neil, 2008). Intrapersonal and interpersonal MGRC results from (a) devaluation, (b) restriction, or (c) violation of gender role norms. Devaluation is criticism resulting from conforming to or deviating from gender role norms. Restriction is a loss of freedom resulting from conforming to gender norms. Violation of gender role norms is the victimization and abuse due to gender role norm deviation that results in psychological and physical pain.

MGRC may be considered both a source and agonist of life stress in men, with multiple life stressors boasting robust correlations with elevated conflict. MGRC has been linked to relationship problems and feelings of loneliness (Blazina, Settle, & Eddins, 2008; Fischer, 1997; Sharpe, 1994). Further, MGRC has been negatively correlated with perceptions of social support in samples of older men (Hill & Donatelle, 2005) and male military veterans with Posttraumatic Stress Disorder (PTSD; Jakupcak, Osborne, Michael, Cook, & McFall, 2006). MGRC has also

been related to social discomfort (Hayes & Mahalik, 2000) and reduced social intimacy (Mahalik, Locke, Theodore, Cournoyer, & Lloyd, 2001).

Within families, MGRC has a deleterious impact across age groups. In a sample of adolescent boys, those with greater MGRC reported more family distress (Blazina, Pisecco, & O'Neil, 2005). Among men in college, MGRC was related to distant attachments and psychological separation from parents. In another study, husbands' MGRC was correlated with decreased family involvement and poor spousal health outcomes (Breiding, 2004). MGRC has also been linked with constructs relating to romantic relationships. In one study, Wong and Rochlen (2009) demonstrated that male college students with greater levels of MGRC were less likely to be in romantic relationships. Further, men's marital satisfaction has been correlated with MGRC (Campbell & Snow, 1992). MGRC has been negatively correlated with extraversion and agreeableness, two variables that impact a person's ability to have successful relationships (Fischer, 2007; Tokar, Fischer, Schaub, & Moradi, 2000). A fear of intimacy (Fischer & Good, 1997; Good et al., 1995) and avoidance (Wester, Kuo, & Vogel, 2006) have also been linked to MGRC.

The relationship between MGRC and depression is important to note. Depression—a robust suicide risk factor (American Foundation for Suicide Prevention, 2010)—has been correlated with MGRC in samples of healthy undergraduates (Good & Mintz, 1990; Good & Wood, 1995; Mahalik & Cournoyer, 2000; Sharpe & Heppner, 1995), college men seeking counseling (Good et al., 1989), Mexican American college men (Fragoso & Kashubeck, 2000), gay men (Simonsen, Blazina, & Watkins, 2000), and middle-aged men (Mahalik & Cournoyer, 2000). Additionally, MGRC has been correlated with males' experience of failure, guilt, and pessimism (Shepard, 2002); low self-esteem (Sharpe and Heppner, 1991); self-hate (Wester et

al., 2006); shame (Thompkins & Rando, 2003); self-stigma (Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011); and negative feelings about being gay in a sample of gay men (Sánchez, Westefeld, Liu, & Vilain, 2010). The capacity to endure negative life stressors like depression is, in general, facilitated by emotional expressivity (Kennedy-Moore & Watson, 2001). Alexithymia, the inability to identify and describe one's emotions (Levant, Halter, Hayden, & Williams, 2009), has been linked to MGRC in college students (Fischer & Good, 1997), and in military veterans with diagnoses of PTSD (Jakupcak et al., 2006).

Researchers have established that traditional masculinity beliefs which often predispose men to gender role stress are prevalent in the U.S. military. For instance, Kurpius and Lucart (2000) found that men at military institutions endorse significantly more traditional masculine values, authoritarian tendencies, and anti-femininity sentiments when compared to their civilian counterparts. The authors offer two explanations for this pattern: (1) military careers attract men who endorse traditional gender perspectives prior to joining the service and (2) military training amplifies traditionally masculine attributes like competition and stoicism.

To date, there is very limited research on the direct relationship between MGRC and suicide. In fact, Houle, Mishara, and Chagnon (2008) have published the only study on this topic where they compared two groups—men admitted to an inpatient hospital for a suicide attempt and a control group with no history of suicide attempts—all participants experienced similar stressful life events in the year prior to study enrollment. After controlling for mental disorders, men who had attempted suicide endorsed higher levels of MGRC. The authors subsequently performed a mediational analysis and concluded that help seeking aversion, perceived social support, and presence of a mental disorder (e.g., Major Depressive Disorder and/or Substance-Related Disorder) mediated the relationship between MGRC and a suicide attempt.

The construct of male gender role stress appears to be a useful and meaningful framework to help understand male suicide. For instance, consider a man who decides to kill himself because he can no longer provide financially for his family. A sense of perceived failure and burden on his family is perhaps associated with unique male gender role schemas developed over time. In another case, a man struggling privately with extreme psychological pain and distress may decide not to seek help because of a perceived sense of weakness and shame. These maladaptive cognitions (e.g., “I must be strong.”) and emotions (e.g., extreme stoicism) may be very closely tied to one’s sense of efficacy as a man. While much remains unknown about the association between male gender role stress and suicide, a number of unique risk indicators for men who die by suicide have been empirically identified. In the sections below, a brief summary of these is provided within the following domains: (1) psychiatric diagnoses; (2) biological vulnerability; (3) stressful life events; (4) men’s gender role conflict; (5) help seeking behaviors; and (6) externalizing behaviors.

### **Risk Indicators Associated with Male Suicide**

**Psychiatric diagnoses.** Antisocial Personality Disorder is diagnosed three times more often in men than women (American Psychiatric Association, 2000) and has been identified as a psychiatric diagnosis in men that increases the likelihood of suicide (Nock & Kessler, 2006). Moreover, researchers conducting a case controlled study of depressed suicidal males identified substance abuse, substance dependence, and pathological levels of impulsivity and aggression as factors associated with suicide (Dumais, Lesage, Alda, Rouleau, Dumont, & Chawky, 2005). Similarly, a diagnosis of a conduct disorder conferred a more significant association with suicide for young males than females (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999). Finally, using a two-year prospective design, researchers determined that a diagnosis of borderline



personality disorder resulted in a threefold elevation of suicide risk in men (Oquendo, Bongiovi-Garcia, Galfalvy, Goldberg, Grunebaum, Burke, 2007).

**Biological vulnerability.** Researchers have recently demonstrated that discrete patterns in psychobiological variables like corticotropin releasing hormone and gonadal axis hormone release are unique to suicidal males (Austin, Janosky, & Murphy, 2003; Tripodanakis, Markianos, Rouvali, & Istikoglou, 2007). Further, Currier and Mann (2008) reported that antisocial behavior and greater impulsivity, both of which contribute to suicidal behavior, appear to be related to a traumatic upbringing coupled with a lower expressing form of the MAO A gene, and this association was only found in males. Testosterone, a sex hormone implicated in depression and violent behavior, has also been identified as a neurohormonal mechanism underlying male suicide (Lester, 1993). Moreover, Taylor and colleagues (2000) found that the limited role oxytocin plays in the male stress response appears to be implicated in social withdrawal, another widely recognized suicide risk correlate. However, prior research has established that biological factors do not appear to adequately explain sex-specific health outcomes (Krantz, Grunberg, & Baum, 1985; Taylor, Klein, Lewis, Gruenewald, Gurung, & Updegraff, 2000; Wallen, 1996).

**Stressful life events.** Researchers have demonstrated that approximately 80% of suicide deaths are precipitated by stressful life events (Heikkinen & Lonnqvist, 1994), and certain life stressors appear to predispose men to suicide. Interviews with nearly 400 surviving next of kin (e.g., spouse/cohabiting partner) revealed that physical illness (25%), interpersonal tension (22%), and separation (14%) were the most common life stressors precipitating suicide among men (Heikkinen & Lonnqvist, 1994). When Heikkinen and Lonnqvist (1994) analyzed the

cases by age, suicide deaths among younger men were most often precipitated by interpersonal tension, separation, and financial trouble.

Using psychological autopsies, Marttunen, Henriksson, Isometsa, Heikkinen, Aro, and Lonnqvist (1998) found that legal problems were the most commonly identified life precipitants in a sample of adolescent male suicide decedents. Researchers have also found that suicides among adolescent men are often precipitated by interpersonal conflict and separation (Marttunen, Aro, Lonnqvist, 1993). In a case controlled study involving young men, those who died by suicide were more likely to experience attachment disruptions, disciplinary problems, and interpersonal conflict (Brent, Perper, Moritz, Baugher, Roth, Balach, Schweers, 1993). In an extensive literature review, Joe and Kaplan (2001) reported that marital conflict, witnessing violence, and abusive home environments were prominent life stressors precipitating suicide deaths among African American men.

Regarding childhood sexual abuse, a large epidemiological study revealed that 55% of boys reporting sexual abuse attempted suicide compared to 29% of girls (Martin, Bergen, Rishardson, Roeger, & Allison, 2004). Moreover, Qin and colleagues (2000) found that retirement, unemployment, and being single served as male-specific suicide precipitants. Finally, specific to the U.S. military, suicide risk for males is further compounded by the unique occupational demands of extended separation from family, chronic exposure to violence, and immediate access to firearms (Martin et al., 2009).

**Help seeking behavior.** Willingness to seek and receive help promotes coping in the face of adversity (Cohen and Wills, 1985). A number of empirical studies clearly indicate that men are less likely to seek professional help for physical and psychological concerns (see Addis & Mahalik, 2003 for a review). One potential reason for this lack of help seeking is MGRC which

has been negatively correlated with past help seeking and likelihood of future help seeking behaviors (Good & Wood, 1995). MGRC has been correlated with general negative attitudes about help seeking (Blazina & Watkins, Jr., 1996; Good & Wood, 1995) in samples of college men.

More specifically, MGRC has been correlated with negative attitudes toward seeking mental health treatment in college and adult men (Groeschel, Wester, & Sedivy, 2010; Steinfeldt, 2009; Berger, Levant, McMillan, Kelleher, & Sellers, 2005) including reduced expectations that mental health counseling would be beneficial (Schaub & Williams, 2007). A possible account of help seeking aversion in men, in a qualitative study with older men McVitte and Willock (2006) noted that participants perceived ill health as inconsistent with their perceptions of ideal masculinity. Further, higher levels of MGRC have been associated with the perception of alcohol abuse and depression as being self-stigmatizing (Magovcevic & Addis, 2005).

**Externalizing behaviors.** Researchers have demonstrated that the presence of externalizing behaviors like aggression and substance abuse amplifies suicide risk in a community sample (Verona, Sachs-Ericsson, & Joiner, 2004). Alcohol use has a relationship with disinhibition—resulting in increased likelihood to be involved in violent behaviors (Berman, Bradley, Fanning, & McCloskey, 2009). In two studies of college students, MGRC was correlated with alcohol usage (Blazina and Watkins Jr., 1996) and problems resulting from alcohol use (Groeschel et al., 2010). In another study of Australian college men, alcohol use was correlated with MGRC (Monk & Ricciardelli, 2003).

Furthermore, MGRC also shares a strong positive correlation with aggression, hostility, and anger (Reidy, Dimmick, MacDonald, & Zeicher, 2009). This link has been demonstrated in samples of college students (Jakupcak et al., 2002), court referred men (Schwartz et al., 2005),

adolescent boys (Blazina et al., 2005), gay men (Simonsen, Blazina, & Watkins, 2000), husbands' hostility toward their wives (Breiding, 2004), and men receiving services at a college counseling center (Bosson, Vandello, Burnaford, Weaver, & Wasti, 2009).

### **Purpose**

Given the lack of empirical literature on male gender role stress and suicide – particularly in relation to military males – this study's broad objective was to collect information on these domains directly from surviving family members and friends of military suicide decedents. The purpose of the current study was twofold: (1) to develop, pilot, and preliminarily evaluate a military focused instrument for the measurement of male gender role strain; and (2) to determine the association between male gender role strain (as measured by the newly constructed instrument) and other life stressors among military suicide decedents, from the perspective of surviving family members and friends.

### **Aims and Hypotheses**

The specific aims of the current study were:

**Specific Aim 1:** (1A) To construct a military focused instrument on male gender role stress; and (1B) to pilot the newly constructed instrument, Male Gender Role Stressor Inventory (MGRSI), based on administration to a sample of military survivors reporting on their observations of suicide decedents prior to death.

**Specific Aim 2:** To conduct an item analysis of the MGRSI and to determine the internal consistency reliability of the constructed measure.

**Specific Aim 3:** To evaluate the relationship between observed life stressors at 1-month and 12-months prior to suicide and perceived male gender role stress (as measured by the MGRSI).

**Hypothesis 3.1:** Relational, financial, legal, trauma, and global life stressor scores at 1-month of death will be significantly associated with MGRSI total score.

**Hypothesis 3.2:** Relational, financial, legal, trauma, and global life stressor scores at 1-year of death will be significantly associated with MGRSI total score.

## **Methods**

### **Research Design**

A cross-sectional study was conducted with both quantitative and qualitative data collected via an anonymous survey.

### **Participants**

Recruitment occurred at the 2<sup>nd</sup> and 3<sup>rd</sup> Tragedy Assistance Program for Survivors (TAPS) National Military Suicide Survivor Seminars in Washington, D.C. (October 2010) and in Colorado Springs (October 2011). “Military suicide survivors” is a term that refers to individuals who have lost a loved one to suicide during his or her active service in the United States military. For the purposes of this study, all adult survivors of military suicide in attendance at the aforementioned TAPS seminars were eligible and invited to voluntarily participate in the study. Inclusion criteria included the following: (1) age 18 or above; (2) family member or significant other of a military service member who died by suicide; (3) attendee at the TAPS seminar; and (4) the suicide survivor is reporting on a male decedent.

### **Procedure**

At the onset of each TAPS meeting, the organizers made a general announcement about the study and requested that interested individuals visit the Research Table set up by the team from the Laboratory for the Treatment of Suicide-Related Ideation and Behavior at the Uniformed Services University of the Health Sciences. The Research Table was staffed in the lobby of the TAPS conference venue. As needed, research team members provided a brief description of the current study addressing confidentiality, potential risks, and benefits. Furthermore, detailed study

information was provided on the first two-pages of the survey (see Figure 1). Interested individuals were instructed to pick-up and return completed survey packets in a drop-box provided at the Research Table. Informational handouts on suicide prevention and bereavement were provided at the Research Table as resources for the survivors.

Completed survey packets were only collected during the duration of the meeting. There was no option of mailing the completed surveys. The decision not to offer this option was made in consultation with the seminar organizers in order to protect the interests of the survivors so that if an individual experienced distress during the completion of the questionnaire, psychological assistance could be provided in a timely manner, on-site. No identifying information was collected from the participants and this assurance of anonymity was expected to make survivors feel more comfortable sharing their perspectives on their loved ones' suicides.

### **Measures**

**Demographic and Decedent History Questionnaire.** The Demographic and Decedent History Questionnaire (see Figure 2) is a 26-item self-report instrument designed for the purposes of this study to collect information pertaining to the demographic characteristics of both the respondent and the decedent. In this portion of the survey, respondents were asked to describe the decedents' medical problems, psychiatric problems, and use of mental health service as well as psychopharmacology utilization.

**Life Stressor Checklist.** Consisting of eight life stressor domains, the Life Stressor Checklist (see Figure 3) is a self-report instrument designed by the authors to assess for the presence of life stressors one-year and one-month prior to the decedent's death. The major life stress categories represented in this instrument include: (1) relationships; (2) military career; (3) civilian career; (4) financial; (5) legal; (6) health-related; (7) trauma; and (8) internal. Elements of these domains (i.e., those pertaining to aggression, anger, violence, criminal behavior, and

esubstance abuse) were used in the post hoc construction of the externalizing behavior category. Respondents were asked to endorse all stressors that applied best to the decedent's life at both one-year and one-month prior to death.

**Male Gender Role Stressor Inventory (MGRSI).** The MGRSI (see Figure 4) is a 16-item self-report instrument designed for the purposes of this study in order to measure perceived types of male gender role stressors as reported by military survivors on the suicide decedent. The MGRSI items were written after a comprehensive review of the literature on male gender role stress, a review of existing male gender role measures and their strengths as well as limitations, and consultation with civilian as well as military suicide prevention researchers. The MGRSI allows for the measurement of specific male gender role stressors that are expected to be associated with suicide in military personnel.

The MGRSI was designed to measure male gender role stressors on a continuum of 8 factors of interest: (1) success – failure; (2) control – powerlessness; (3) stoicism – emotive; (4) alexithymia – emotional awareness; (5) honor – shame; (6) status – isolation; (7) self-efficacy – weakness; and (8) self-reliance – reliance on others. Each factor is associated with responses on 2 designated items. The first item assesses a gendered cognitive schema (e.g., Item 1. He believed that achievement was central to his identity.), and the second item assesses affective/behavioral manifestations in response to a violation of the schema (e.g., Item 2. When he felt that he was a failure, he found it unacceptable.). Individuals were asked to rate their responses using a 7-point Likert type scale ranging from 1 (*extremely unlike him*) to 7 (*extremely like him*) in reference to the military suicide decedent.

***Brief review of MGRSI scale development procedures.*** The scale development process for the MGRSI was multi-staged. First, a comprehensive search of existing instruments for the

measurement of male gender role stress was conducted on PsychInfo and Pubmed. Two specific instruments, the Gender Role Conflict Scale (GRCS; O'Neil, Helms, Gable, David, & Wrightsman, 1986) and the Masculine Gender Role Stress Scale (MGRSS; Eisler & Skidmore, 1987) were identified as the gold-standards in the field of male psychology with well-established psychometric properties. The GRCS is a psychometrically robust 37-item scale consisting of four factors: (1) success, power, competition issues; (2) restrictive emotionality; (3) restrictive and affectionate behavior between men; and (4) conflicts between work and family relations (see O'Neil et al., 2008 for a review). Likert type response options range from one (strongly disagree) to six (strongly agree). Sample item consists of the following: "I am often concerned about how others evaluate my performance at work or school" and "My work or school often disrupts other parts of my life (home, health, leisure)." A related and equally strong measure, the MGRSS is a 40-item scale consisting of five factors: (1) physical inadequacy, (2) emotional expressiveness, (3) subordination to women, (4) intellectual inferiority, and (5) performance failure (Eisler & Skidmore, 1987). Likert type response options range from one (not at all stressful) to seven (extremely stressful). Sample items consist of the following: "Staying home during the day with a sick child" and "Working with people who are brighter than you."

Even though a number of measures currently exist on male gender role stress, the development of a new instrument specifically tailored to the unique culture of the military and the male-specific stressor/risk indicators established in the field of suicidology was considered to be an important research effort. To date, two particular measures, (1) the Gender Role Conflict Scale (GRCS; O'Neil et al., 1986) and (2) the Masculine Gender Role Stress Scale (MGRSS; Eisler & Skidmore, 1987) have been used frequently in research studies in the field of male psychology (used very rarely in the field of suicidology); both have shown solid psychometric



properties. However, these instruments are over two decades old and therefore contain items that require updating given that they clearly do not apply to the younger generation of men enlisted in the military (e.g., GRCS Sample Item, “Verbally expressing my love to another man is difficult for me.”; Sample Item, “Staying home during the day with a sick child.”). Neither the GRCS nor the MGRSS has been adapted for use in military samples, particularly those at risk for suicide-related behaviors. In fact, the GRCS and MGRSS items were selected after card sorting tasks and factor analyses using a nonclinical sample of college students. The newly developed instrument, the MGRSI, instead of simply identifying behavioral manifestations of male gender role stress which have been emphasized by its predecessors, focuses on underlying rigid cognitive schemas expected to be associated with risk-related behaviors, particularly suicide. The MGRSI consists of 16-items and demands little of respondents through the use of standardized and cohesive item wording and structure whereas the GRCS and MGRSS consist of at or near 40-items presented in a non-structured manner.

The second stage in the scale development process involved the generation of various items that best captured the male gender stressor-related beliefs commonly cited in the suicidology literature and/or clinically observed. Overall, eight factors of the MGRSI were formed, each along a continuum with extremes at either end: (1) success/failure, (2) control/powerlessness, (3) stoicism/emotive, (4) alexithymia/emotional intelligence, (5) honor/shame, (6) status/isolation, (7) self-efficacy/weakness, and (8) self-reliance/reliance on others. For each factor, an initial pool of at least 17 items were generated with the first item capturing a belief and the second capturing the perceived unacceptability of violating the belief. In the third stage of the scale development process, these factors were then reviewed in a series of laboratory meetings where at least 12-24 members with either a Bachelor’s degree or a

Doctorate degree were asked to independently select the items that most closely captured the specific factor of interest. Ratings assigned to each item were provided to the first author of this thesis and based on these ratings, items were refined and finalized for the MGRSI. Inspired by the multifaceted nature of traditional masculinity espoused by gender role strain (Pleck, 1981; 1995) and gender role conflict theory (O'Neil, 2008), finalized items for the MGRSI were intended to best capture cognitive, behavioral, affective, and interpersonal components of male gender role stress.

### **Human Subjects Protection**

The proposed research was not expected to pose a risk to study participants and therefore was classified as no more than minimal risk by the Institutional Review Board at the Uniformed Services University of the Health Sciences. The research was voluntary, the designed survey was anonymous, and any individual survivor had the choice to refuse to participate at any time. No identifying information was collected. While there was a risk for discomfort and negative emotions as a result of responding to questions, survivors who attended the seminars were there to explore and gain a better understanding of their suicide loss. Therefore, while a vulnerable population, these survivors were often willingly engaged in conversations, meetings, and activities that activated some level of distress and negative emotions pertaining to their loss and bereavement.

The two-page consent form provided at the beginning of the survey was meant to educate the potential study participants about what they were being asked to do and offered information as well resources for their protection. In addition, the Research Table was staffed by personnel with experience in suicide prevention issues who could directly address potential questions and/or concerns. The organizers of the conference provided a number of self-care and resource pamphlets throughout the three days of each meeting. Further, participants were asked to complete the survey

packet over the three days of their attendance and were therefore, given an opportunity to personally monitor their emotional reactions and complete the survey at their own pace.

## **Results**

### **Characteristics of Suicide Survivor Respondents**

For the purposes of this project, data pertaining only to respondents reporting on male military suicide decedents is analyzed and reported. A total of 65 suicide survivors (86.2% female, 12.3% male, 1.5% unknown) participated in this study (Table 1). Based on a review of the data, between one to three instances were uncovered where more than one respondent commented on the same decedent. Respondents ranged in age from 22 to 74 years ( $M = 48.41$ ;  $SD = 12.86$ ) and consisted primarily of Caucasians (92.3%), Hispanic/Latino (4.6%), and African American (1.5%) with the remaining 1.5% of ethnicities unknown. Parents (44.6%) and spouses/significant others (29.2%) were the two primary types of specified relationships, followed by children (1.5%), siblings (10.8%), other (10.3%), and unknown (1.5%). Approximately one out of every five respondents (23.1%) was living with the decedent at the time of his or her death.

### **Characteristics of Suicide Decedents**

**Demographic.** Male suicide decedents ranged in age between 19 to 59 years old ( $M = 30.23$ ;  $SD = 8.49$ ) (Table 2) with 80.0% ( $n = 53$ ) identified as Caucasian, 4.6% ( $n = 3$ ) as Hispanic/Latino, 1.5% ( $n = 1$ ) as Asian American, 1.5% ( $n = 1$ ) as American Indian or Alaskan Native, and 9.2% ( $n = 6$ ) as other. The relationship status of the suicide decedents, at the time of death, was characterized as follows: married (46.2%;  $n = 30$ ); never married (24.6%;  $n = 16$ ), with significant other (12.3%;  $n = 8$ ), separated (10.8%;  $n = 7$ ), and divorced (6.2%;  $n = 4$ ). The majority of decedents (56.9%;  $n = 37$ ) earned college credit or a college degree, with another

36.9% (n = 24) having completed high school, 4.6% (n = 3) with a graduate school training or degree, and 1.5% (n = 1) missing information on education.

**Military.** In terms of branch of service, approximately half (53.9%; n = 35) of the decedents were in the U.S. Army, followed by 18.5% (n = 12) in the U.S. Marine Corps, 13.9% (n = 9) in the U.S. Navy, 6.2% (n = 4) in the U.S. Air Force, and 3.1% (n = 2) in the U.S. Coast Guard; branch service data was not provided for 4.6% (n = 3) of the decedents. Furthermore, the following distributions were obtained for military rank: 18.5% E-1 to E-3 (n = 12); 21.5% E-4 to E-6 (n = 14); 4.6% E-7 to E-9 (n = 3); 16.8% O-1 to O-3 (n = 11); 7.7% O-4 to O-6 (n = 5); 7.7% (n = 5) unknown and the remaining 23.1% (n = 15) missing. A majority of the decedents (66.2%; n = 43) were reported to have had a history of at least one combat deployment during time of service.

**Medical and psychiatric.** A number of medical and psychiatric issues for the suicide decedent were reported by the study respondents. More specifically, sleep problems (36.9%; n = 24) and traumatic brain injury (15.4%; n = 10) were the two most commonly reported. Additional medical issues included sexual dysfunction (6.2%; n = 4), amputation (4.6%; n = 3), and chronic pain (4.6%; n = 3). Medical issues were absent at the time of death for almost a quarter of the decedents (23.1%; n = 15). The remaining 18.5 % (n = 12) had an unknown medical condition and 7.7% (n = 5) had a medical condition not specified in the survey.

More than one third (35.4%; n = 23) of the decedents had a history of at least 1 suicide attempt and the same percentage held for a history of psychiatric hospitalization (Table 3).

Psychiatric diagnoses of the suicide decedents included the following: Posttraumatic Stress Disorder (PTSD) (26.2%; n = 17); Major Depressive Disorder (MDD) (23.1%; n = 15); Bipolar Disorder I or II (16.9%; n = 11); Panic Disorder (18.5%; n = 12); and Schizophrenia (7.7%; n =

5). Twenty percent ( $n = 13$ ) of the decedents were not reported to have a psychiatric disorder at the time of death, while almost ten percent ( $n = 6$ ) had a psychiatric condition not specified in the survey with the remaining 18.5% ( $n = 12$ ) having an unknown psychiatric condition.

In terms of interventions, the following services were received by the suicide decedents: (a) individual psychotherapy (36.9%;  $n = 24$ ); (b) medication management (24.6%;  $n = 16$ ), (c) couples/family therapy (15.4%;  $n = 10$ ), (d) group therapy (7.7%;  $n = 5$ ), and (e) supportive groups like Alcoholics Anonymous (6.2%;  $n = 4$ ). Antidepressants were commonly used (26.2%;  $n = 17$ ), followed by antipsychotics (12.3%;  $n = 8$ ), and/or mood stabilizers (7.7%;  $n = 5$ ). Eight (12.3%) decedents were concurrently receiving several types of pharmacotherapies (e.g., antidepressants and antipsychotics), five (7.7%) were receiving an unspecified pharmacotherapy, and eight (12.3%) were receiving psychiatric medications not specified in the survey.

### **Male Gender Role Stressor Inventory (MGRSI)**

**Completion rate, data imputation, and handling of outliers.** For the purposes of analyses utilizing the MGRSI data, 14 out of the 65 completed measures were excluded resulting in a total of 51 (78.5%) measures. In cases where a completion rate of 100% for all 16 items was not obtained, data imputation was used but only limited to three or less MGRSI items per respondent. Furthermore, three of the MGRSI forms were excluded due to a very low response rate and impartial completions (ranging from 0% to 62% non-response rate); an additional 11 MGRSI forms were excluded as outliers (greater or less than three standard deviations from the mean). The decision to remove these outliers was based on a careful examination of the frequency distribution of MGRSI scores before and after outlier removals and consultation with two independent biostatisticians. Furthermore, the removal of outliers maximized the likelihood

of obtaining the most reliable estimates of internal consistency for MGRSI and the most meaningful understanding of the relationship between scores on these measures and other life stressors prior to suicide. While the removal of outliers remains a controversial topic in statistics, a number of experts agree that doing so enhances representation of the intended population (Field, 2009).

**Means and standard deviations of MGRSI total, subscale, and item scores.** Table 4 provides a summary of means and standard deviations for each MGRSI item. The analyses based on a total of 51 respondents indicated a normally distributed frequency for the MGRSI. The strongest factors identified as central to the male suicide decedents' identities, on a seven-point Likert scale, were honor ( $M = 6.29$ ,  $SD = 0.81$ ), strength ( $M = 6.16$ ,  $SD = 0.99$ ), and achievement ( $M = 6.14$ ,  $SD = 0.85$ ). In comparison, the weakest factors central to the male suicide decedents' identities were indifference to emotions of his and others ( $M = 4.37$ ,  $SD = 1.90$ ) and being stoic ( $M = 5.16$ ,  $SD = 1.50$ ). The factors reported to be the most unacceptable by the suicide decedents were failure ( $M = 6.18$ ,  $SD = 0.77$ ) and weakness ( $M = 6.08$ ,  $SD = 0.89$ ). In comparison, the factors reported to be the least unacceptable by the suicide decedents were feeling emotive ( $M = 4.41$ ,  $SD = 1.66$ ) and complaining about troubles ( $M = 4.82$ ,  $SD = 1.81$ ).

Table 5 provides the means and standard deviations for each of the eight subscales of MGRSI. The subscales with the highest means were the following: Success/Failure ( $M = 12.31$ ,  $SD = 1.33$ ), Self-Efficacy/Weakness ( $M = 12.24$ ,  $SD = 1.67$ ), and Pride/Shame ( $M = 12.18$ ,  $SD = 1.51$ ). The subscales with the lowest means were the following: Stoic/Emotive ( $M = 9.98$ ,  $SD = 2.68$ ) and Alexithymia/Emotional ( $M = 8.78$ ,  $SD = 3.21$ ).

**Cronbach's alphas of the MGRSI.** An inter-item correlation matrix of the MGRSI is presented in Table 6. Overall, the MGRSI demonstrates good to adequate internal reliability (16 items;  $\alpha = .76$ ; Cortina, 1993; Field, 2009) (Table 7). While internal reliability conventions are contested in the literature, low-item (i.e., around 10 item) psychological instruments are generally considered reliable if an alpha statistic of greater than .70 is achieved (Cortina, 1993; Field, 2009). Variability in Cronbach's alpha scores was noted among the eight subscales. Yet eliminating item 7 ("He believed that indifference to emotions of his and others was central to his identity.") only marginally increased the Cronbach's index of internal reliability of the MGRSI (15 items;  $\alpha = .78$ ), with all other item eliminations resulting in unchanged or diminished reliability scores (Table 8). Subscale 8 (self-reliance/reliance on others) demonstrated the most robust internal reliability (2 items,  $\alpha = .78$ ; Field, 2009) and subscale 5 (pride/shame) the least (2 items;  $\alpha = .38$ ; Field, 2009).

### **Relationship between Perceived Life Stressors and Male Gender Role Stress at 1-Month and 1-Year Prior to Suicide**

**Data construction.** Several steps were taken to prepare the data for a correlation analysis between observed life stressors and male gender role stress. First, a cumulative stressor score for each decedent and for each life stressor domain (i.e., relationships, military career, civilian career, financial, legal, health-related, trauma, and internal) was calculated for both time points (i.e., 1-month and 1-year). To illustrate, the relationships life stressor domain of the Life Stressors Checklist contained ten items that attempted to capture the decedent's relationship problems observed prior to death. Surviving suicide respondents were asked to indicate the presence of each type of stressor for the period, if observed, within 1-month and/or 1-year prior to death. Total scores for the relationships life stressor domain were then tabulated to reflect

cumulative observed relationship stress at 1-month and/or 1-year before death. The cumulative stressor scores for each decedent and for all of the eight life stressor domains were then calculated to obtain a global life stressor index for the period of 1-month and 1-year prior to suicide.

**Correlational analyses.** A series of two-tailed Pearson's product-moment correlations were run to determine the strength and direction of relationships between perceived life stressors for each of the eight domains (i.e., relationships, military career, civilian career, financial, legal, health-related, trauma, and internal) and the MGRSI total score (Table 9) at 1-month and 1-year prior to death. Significant life stressor correlations with the MGRSI total score prompted more fine-grained analyses, especially in cases where small yet significant correlations were found, in order to identify the specific life stressor items within each domain that were driving the significant findings.

Several significant correlations emerged between the MGRSI total score and life stressors at 1-month prior to suicide. The trauma life stressor index at 1-month prior to suicide was significantly correlated with the MGRSI total score,  $r(49) = .34, p < .05$  (Table 9). Specifically, death of a military peer,  $r(49) = .55, p < .05$ , and exposure to violence against civilians,  $r(49) = .63, p < .01$ , at 1-month prior to suicide, showed significant and moderate correlations with the MGRSI total score (Table 10). In addition to trauma, legal stressors at 1-month prior to suicide were also significantly correlated with the MGRSI total score,  $r(49) = .31, p < .05$  (Table 9). Specifically, divorce proceedings,  $r(49) = .57, p < .05$ , at 1-month prior to suicide were significantly and moderately correlated with the MGRSI total score (Table 10). Similar analyses were conducted to examine the relationship between the MGRSI total score and life stressors at 1-year prior to suicide. Divorce proceedings were found as the only life stressor, at the 1-year



timeframe, to be significantly correlated with the MGRSI total score,  $r(49) = .50, p < .05$  (Table 11).

**Simple linear regression analyses.** Those specific life stressors robustly correlated with the MGRSI total score were then submitted to a series of simple linear regressions (Table 12). The rationale for these analyses was to determine the variance in the MGRSI total score independently accounted for by the specific life stressors. Doing so achieves a clinically meaningful estimate of targeted life stress in suicidal military males. The specific life stressors selected for these analyses in accordance with significant MGRSI total score correlations include divorce proceedings, death of a military peer, and witnessing violence against civilians at one-month before death. All simple linear regressions between the preceding life stressors and the MGRSI total score were found to be significant. The death of a military peer independently accounted for 30% of the variance in the MGRSI total score,  $F(1, 17) = 7.20, p < .05$ ; divorce proceedings independently accounted for 33% of the variance in the MGRSI total score,  $F(1, 17) = 8.36, p < .01$ ; and witnessing violence against civilians independently accounted for 40% of the variance in the MGRSI total score,  $F(1, 15) = 9.88, p < .01$ .

**Multiple and logistic regression analyses.** Two multiple regression analyses were performed with legal, relationship, financial, trauma, and global index stressor scores entered as independent variables and the total MGRSI score at one-month and then again at one-year prior to suicide entered as the dependent variable. Significant associations with the MGRSI total score were found at 1-month prior to suicide for legal stressors,  $B = 4.96, t(50) = 2.20, p = .03$ , and trauma stressors,  $B = 2.86, t(50) = 2.34, p = .02$  (Table 13). The model accounted for 25% of the variance in the outcome variable,  $F(5, 45) = 3.02; p = .02$ . According to Cohen's (1988) conventions, this is a moderate effect. When the same predictors were regressed on the MGRSI

total score at one-year the model did not achieve significance,  $F(5, 45) = 1.59, p = 0.18$  (ns) (Table 14).

A logistic regression analysis was additionally performed where the dependent variable, MGRSI total score, was dichotomized into high versus low male gender role stress. The purpose for the logistic regression analyses was to obtain an odds ratio estimate. Based on a review of the literature and in consultation with two biostatisticians, the MGRSI total score mean was determined to be the most representative cutoff point. Therefore, all MGRSI total scores above 89.14 were categorized as high male gender role stress whereas all scores below 89.14 were categorized as low gender role stress.

Given the significance of the observed associations between trauma and legal stressors with MGRSI total score at the one-month prior to suicide timeframe, these two factors were entered into the logistic regression model as independent variables. The overall model was significant,  $X^2(2, N = 51) = 6.39, p = .04$ . For every one unit increase in observed trauma-related life stress, the odds of high MGRSI total score increased by 1.23. Likewise, for every one unit increase in observed legal-related life stress, the odds of high MGRSI total score increased by 2.77 (Table 15).

### **Discussion**

This study, to the best of our knowledge, is the first to attempt to gain a better understanding about military suicide decedents through the eyes of their surviving family members. For this purpose, data were collected from the family members and loved ones of military male suicide decedents, specifically those individuals presumably intimately knowledgeable of the decedent's life stressors, communications prior to death about such stressors, thoughts, emotions, and behaviors in the months, weeks, and moments before suicide. In order to measure specific male gender role stressors in military suicidal personnel, the MGRSI

which is a 16-item instrument built on existing knowledge in the fields of male psychology and suicidology was developed and preliminarily evaluated in a sample of military suicide survivors. Distinguishing itself from previously established masculinity psychology measures, the MGRSI utilizes cognitive theory as its foundation where 8 of its items assess rigid male gender role specific beliefs and eight of its items assess consequences of belief violations. A Cronbach's index of internal reliability of  $\alpha = .76$  was found for the MGRSI which indicates adequate to good internal reliability in a sample of 51 individuals.

Furthermore, the associations between high male gender role stress (as indicated by elevated MGRSI total scores) and other life stressors present in the lives of military suicide decedents as reported by surviving family members and friends were examined. Elevated male gender role stress was significantly correlated with legal and traumatic life stressors one-month prior to suicide. Co-occurring with high male gender role stress was the loss of a military peer, witnessing violence against civilians, and divorce proceedings one-month prior to suicide. Legal stress originating from divorce proceedings was also found to be significantly associated with male gender role stress one-year prior to death. As indicated by subscale exploratory analyses, driving the correlation between male gender role stress and divorce proceedings at one-month before death were a need to succeed, assert control, and maintain status. Subscale exploratory correlation analysis also demonstrated that, underlying the correlations between male gender role stress, loss of a military peer, and witnessing violence against civilians one-month prior to death, was the presence of alexithymia and a fervent need for success, stoicism, status.

A multiple linear regression showed that legal, financial, trauma, relational, and global life stress 1-month prior to suicide significantly predicted elevated male gender role stress. Likewise, legal and traumatic life stressors one-month prior to suicide were significant predictors

when the MGRSI total score was dichotomized into high and low male gender role stress. All other regression analyses did not show significance. Overall these findings suggest that the presence of legal and traumatic life stressors shortly prior to suicide appears to co-occur with discrete masculinity beliefs to which at-risk individuals may rigidly ascribe. These life stressors were found to be strongly associated, in linear and logistic regression models, with male gender role stress.

The significant positive correlation found in this study among traumatic life stressors, legal life stressors, male gender role stress, and suicide in the military context is consistent with the literature. First, suicidologists routinely demonstrate that traumatic events, often in the form of abuse, sudden loss, and witnessing violence, precipitate suicide-related behaviors among men in the general population (Joe & Kaplan, 2001; Roy, 2001). In the military, researchers underscore the potency of traumatic life events and legal problems as suicide risk factor among men (Chiarelli, 2010; Black, Gallaway, Bell, & Ritchie, 2011; Ramchand, Acosta, Burns, Jaycox, Pernin, 2011).

Masculinity psychology experts further clarify the relationship between suicide and traumatic life stressors. Not only have traumatic life events been implicated in the onset and maintenance of male gender role stress (O'Neil, 2008), but a significant correlation has been uncovered between male gender role stress and suicide-related behaviors (Houle et al., 2008). Finally, Kurpius and Lucart (2000) demonstrated that male gender role stress and rigid masculinity beliefs are more prevalent in a military sample than a civilian sample. With these results placed in the context of previous research, clinical and policy implications must be considered.

### **Clinical and Policy Implications**

Recognized as a demographic suicide risk indicator, the male gender nearly quadruples the odds ratio for fatal self-injury and warrants greater consideration in optimizing targeted primary, secondary, and tertiary suicide prevention campaigns (CDC, 2011). The National Institute of Mental Health (2009) recently launched a national campaign, *Real Men, Real Depression*, in order to directly address the unique needs of men with depression. The development, empirical evaluation, and dissemination of clinical as well as research methods to better understand male suicide and its prevention are critically important endeavors for the U.S. armed services, given its 85% male membership (United States Census Bureau, 2006) and the rise in military suicides, particularly for the U.S. Army and the U.S. Marine Corps over the past decade (DoDSER, 2010; Reger et al., 2011). Moreover, most prevention efforts have yet to alter this rise or lack empirical support, begging the question, are clinicians targeting the most potent risk indicators in a manner consistent with the culturally-specific needs of the most vulnerable demographic? Alternatively, *why* is the male gender so predisposing of fatal self-injury and *how* can clinicians and policymakers salubriously alter these underlying mechanisms in a military context?

Several male-specific psychosocial interventions may be considered viable options for mitigating male gender role stress in the military and, in turn, preventing suicide. Through his work at the Fatherhood Project, Levant and colleagues (1995, 2009) developed the Alexithymia Reduction Treatment (ART) to address the normative paucity of emotional intelligence men possess. The ART program uses a stepwise approach to mitigate the effects of alexithymia, beginning with the development of a lexicon for vulnerable feelings. This program operates with the assumptions that (1) men are raised to dissociate from an array of emotional states, (2) one of the consequences of dissociation is lack of familiarity with emotionally charged vocabulary, and

(3) the logical solution is to educate clients in the diversity of emotional expression. After developing emotional familiarity, a logbook is used to document daily emotional states, their physiologic concomitants, and the circumstances that prefaced their onset. The men involved in ART then meet in groups to discuss shared experiences with the emotions logbook. Finally, the male clients practice identification and description of vulnerable/nurturing emotions displayed in videos and role-play.

A recent pilot study demonstrated that manualized ART significantly reduced alexithymia and endorsement of traditional masculine values compared to treatment as usual, leading the developers to promote the integration of their gender-specific therapy when clinicians encounter men and boys struggling to achieve affective congruence (Levant, Halter, Hayden & Williams, 2009). Given the myriad correlations between alexithymia and life stressors precipitating suicide in the U.S. military sample described in this study, treatments targeting alexithymia would be invaluable contributors to future suicide prevention campaigns within the Department of Defense and the Veterans Administration.

The cognitive orientation offers further insight into how traditionally valued military males, those individuals shown by this study and previous literature to be predisposed to suicide, can be effectively engaged in therapy. Cognitive theorists contend that clients generate idiosyncratic mental structures (i.e., schemata) of a stimulus domain, its constituent attributes, and how these attributes relate to one another (Reinecke & Freeman, 2003). Information is perceived and organized by the dominant cognitive schema through the process of assimilation, and behavior is regulated in accordance with these perceptions (Bem, 1981). Bem (1981) asserts that there exists a gender schema that attends to the environment and dictates behavior in a bifurcated fashion- certain behaviors, emotions, and thoughts are sanctioned only for females,

and others only for males. Mahalik (1999) transforms this theory into clinical practice by identifying eight cognitive distortions (maladaptive information processing that may result in distress/functional impairment; Reinecke & Freeman, 2003) unique to traditional masculinity. These distortions impact such mental realms as fearlessness and self-reliance, and are laden with such unfeasible injunctives as “a real man isn’t afraid of anything” and “if I can’t do it myself, people will think I’m inept” (Mahalik, 1999, pg. 337). Specific to male Service Members who over-adhere to traditional gender norms, Lorber and Garcia (2010) recommend using a decisional balance tool, a cognitive behavioral therapy technique used to evaluate the pros and cons of stereotypically male cognitive distortions of excessive self-reliance and emotional control. Doing so loosens rigid gender norms, in turn enhancing motivation for treatment—particularly the treatment of combat-related PTSD, as suggested by the authors (Lorber & Garcia, 2010). Stoicism and an excessive need for control, male gender role injunctives shown by this study to be prevalent in military male suicide decedents, may be assuaged through the use of these male-specific cognitive-behavioral techniques.

True to cognitive theory, Mahalik (1999) advocates for the methodical infusion of logic to dismantle the cognitive distortions of traditional masculinity. The therapist is directed to first uncover disconfirming evidence, then illustrate the irrationality of the cognitive distortion using disconfirming evidence from the client’s past, and finally encourage the client to engage in hypothesis testing through which more adaptive thought patterns and behaviors are practiced. Take the example of a man who, entrenched in his traditional gender values, suffers from automatic thoughts that demand extreme fearlessness in order to retain any dignity. As disconfirming evidence, the therapist would have the client remember a time when he was witness to an expression of fear in a man he respected, and that respect was maintained despite

this expression of fear. To emphasize the illogical nature of the automatic thought, the therapist would lead the client to the realization that fear is a highly adaptive response that often signals imminent danger. Finally, as a form of behavioral experimentation, the client is urged to discuss “walking away” behaviors with friends who have successfully done so. By fostering a greater awareness of the male socialization process and the internalized messages it generates, clinicians would be in a better position to anticipate and identify gendered factors that contribute to the etiology and maintenance of suicide and suicide-related behavior in male Service Members.

Surprisingly, feminist therapy may also inform the psychological counseling of men in the military struggling with rigid gender role beliefs. Techniques like gender role analysis and consciousness raising groups, hallmarks of feminist therapy, are unlike those previously mentioned in that the experience of one’s gender is discussed directly (Prochaska & Norcross, 2007). Washington (1979) describes the process and impact this kind of approach had on a sample of college students. During communal male role analysis, participants bonded over the common negative experience that originates out of themes like excessive competition and forced estrangement from other males. Behavioral activation was also integrated into treatment, as members were encouraged to express caring affection toward another male in the nonjudgmental atmosphere of the group. At termination, many individuals reported change. Some participants expressed a desire to implement what was learned and finally express love and respect to male family members, while others experienced a general sense of liberation from the prohibitive dictates of the traditional male role. Implicit, maladaptive male gender role beliefs shown by this study to be pervasive among male military suicide decedents, may benefit from group therapy informed by feminist theory.



With the invaluable support of military research psychologists, the above interventions have the potential to improve psychosocial outreach and intervention with men in the military struggling with suicide-related behaviors. First, an aggressive promotional campaign should be undertaken emphasizing the solution-focused, logic-oriented, and strategic nature of counseling. Military research psychologists should consider replicating Hammer and Vogel's (2010) study in order to identify and exploit those elements of outreach materials that access distressed but help-seeking averse male military Service Members. Doing so would help counteract the pervasive stigmatization of therapy as feminine and make psychological interventions more appealing to military men who endorse traditional, bifurcated gender values.

In therapy, a standardized initial objective for all-male military clients should be the reduction of normative alexithymia. Again, military psychologists can pioneer this research; for instance, an effectiveness study of Levant's (2009) Alexithymia Reduction Treatment with a sample of men in the military could be conducted. By collaboratively developing a "toolbox" of emotional awareness techniques the necessary resources exist to stimulate further therapeutic gains, optimize performance, and reduce the likelihood of negative health outcomes. The examination and neutralization of cognitive distortions identified as most salient for traditionally masculine clients, and consequently the majority of men in the military, may then ensue. Military psychologists should evaluate the clinical utility of neutralizing gendered cognitive distortions by randomizing a subset of military clinicians and providing standardized information on male-specific CBT. Significant differences in the clients of the two groups of clinicians will direct the future of male-specific psychosocial intervention in the military. Likewise, a replication study of Beatty and colleague's (2006) Small Groups Norms-Challenging

intervention for maladaptive gender role beliefs, whereby rapid and durable results were achieved, is strongly recommended.

In sum, supportive findings from masculinity psychology, the civilian sector, and this study suggest that research psychologists can enhance military mental health care and suicide prevention efforts by systematically evaluating and implementing male-specific outreach and intervention strategies.

### **Limitations and Strengths**

These findings must be considered in the context of several limitations and strengths. Several drawbacks relate to the survey design and sample. First, as with any retrospective self-report study, challenges with accurate recall exist. Moreover, the family members and loved ones were asked to serve as proxies – i.e., they were asked to describe the values and belief systems of the decedent – in turn exacerbating reporting inaccuracies. The survey design also had several limitations. First, the language used for item eight (“When he felt emotive, he found it unacceptable.”) and five (“He believed that being stoic was central to his identity.”) require modification as they were the most frequently left blank. Perhaps the terms “emotive” and “stoic” were unclear to respondents and may be changed to “emotional” and “unemotional,” respectively. Finally, the findings reported in this study may not be representative of all military suicide decedents given the low sample size and the possibility that certain type(s) of military families choose not to engage in post-suicide grief seminars.

Despite the noted limitations, several strengths may be noted. First, this study is one of the first to examine male gender role stress in the military, and the first to investigate the relationship between male gender role stress and military-specific suicide precipitants. Further, this study pioneers the use of military suicide survivors as informants of suicide precipitants

given that the suicide decedent himself can no longer be accessed. Following a suicide, as many as 6 to 10 loved ones and immediate family members are left behind to cope with the loss (Kung, Hovert, Xu, & Murphy, 2008). Surviving members in the family and social network of the suicide decedent are affected by myriad psychological sequelae, including emotional pain, shame and guilt, negative coping strategies, stigma, negative relational dynamics, and a destabilized family system (Kaslow & Gilman, 2004). Many “suicide survivors,” or those left behind in the wake of a suicide, are faced with the challenge of unresolved questions, emotional turmoil, and feelings of emptiness. While much research has focused on the bereavement and recovery needs of survivors, minimal attention has been paid to learning from their perspectives, experiences, and observations. To date, no published scientific research has documented the unique perspectives of military survivors of suicide prior to this study.

One reason for a lack of research in this area may be related to clinical researchers’ sensitivity to the needs of the survivors and the concern that asking questions about the deceased may further activate negative emotions. However, through personal communication with survivors and the authors’ involvement in the review of Air Force suicide death investigation files, it is clear that survivors are often willing and eager to discuss their experiences with the suicide of their loved one so that others’ suffering may be prevented. During the 2009 1<sup>st</sup> Annual TAPS Military Survivors Conference in San Diego, many survivors either in personal communication and/or testimonies to the Defense Health Board Task Force on Suicide Prevention mentioned their strong interest to share their experiences with researchers so that lessons on suicide prevention could be learned and applied to the broader DoD suicide prevention efforts.

Finally, the development of the MGRSI is a unique contribution to the fields of male psychology and suicidology. The measure, as demonstrated here, shows preliminary promise in capturing unique male stressors experienced by suicidal individuals. Further research on the MGRSI is needed. In particular, exploratory and confirmatory factor analyses must be performed on the measure with sample sizes of at least over 200 (Clark & Watson, 1995) to further evaluate the psychometric properties of the instrument. If the instrument is found to have sound psychometric properties, it can be used as an effective measurement tool in suicide epidemiology research, randomized controlled trials on the prevention of suicide, and as a clinical tool with a brief administration time in both primary care and/or specialty settings. Evidence from this study suggests that further research of the MGRSI can advance our understanding of male suicidology, particularly for the highly vulnerable military population.

## Tables

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Table 1

*Demographic Characteristics of Military Suicide Survivor Respondents (N = 65)*

Characteristic	<i>n</i>	%	<i>M (SD)</i>	Range
Age			48.41 (12.86)	22-74
Sex				
Male	8	12.31		
Female	56	86.15		
Missing	1	1.54		
Ethnicity				
American Indian or Alaskan Native	0			
Asian American	0			
African American or Black	1	1.54		
Hispanic or Latino	3	4.62		
Native Hawaiian or Pacific Islander	0			
White or Caucasian	60	92.31		
Other	0			
Missing	1	1.54		
Relationship				
Sibling	7	10.77		
Child	1	1.54		
Grandparent	1	1.54		
Parent	29	44.62		
Spouse/Significant Other	19	29.23		
Other	7	10.77		
Missing	1	1.54		
Living with decedent				
Yes	15	23.08		
No	48	73.85		
Missing	2	3.08		

*Note.* *M* = mean; *SD* = standard deviation.

Table 2

*Demographic and Military Characteristics of Male Suicide Decedents (N = 65)*

Characteristic	<i>n</i>	%	<i>M (SD)</i>	<i>Range</i>
Age			30.23 (8.49)	19-59
Ethnicity				
American Indian or Alaskan Native	1	1.54		
Asian American	1	1.54		
African American or Black	1	1.54		
Hispanic or Latino	3	4.62		
Native Hawaiian or Pacific Islander	0			
White or Caucasian	53	80.00		
Other	6	9.23		
Relationship Status				
Never Married	16	24.62		
Married	30	46.15		
Separated	7	10.77		
Divorced	4	6.15		
Significant Other	8	12.31		
Education				
High School	24	36.92		
College	37	56.92		
Graduate School	3	4.62		
Missing	1	1.54		
Sexual Orientation				
Bisexual	1	1.54		
Heterosexual	63	96.92		
Homosexual	1	1.54		
Branch				
Air Force	4	6.15		
Army	35	53.85		
Coast Guard	2	3.08		
Marine Corps	12	18.46		
Navy	9	13.85		
Missing	3	4.62		
Duty Status				
Active Duty, Commissioned Officer	14	21.54		
Active Duty, Enlisted Member	28	43.08		
Reservist	11	16.92		
Retired	4	6.15		
Discharged	5	7.69		

Missing	3	4.62
Rank		
O1-O3	11	16.92
O4-O6	5	7.70
O7-O10	0	0
E1-E3	12	18.46
E4-E6	14	21.53
E7-E9	3	4.62
W1-W5	0	0
Unknown	5	7.70
Missing	15	23.08
History of Deployments		
Yes	43	66.15
No	7	10.77
Missing	15	23.08

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*Note.*  $M$  = mean;  $SD$  = standard deviation.

Table 3

*Medical and Psychiatric Characteristics of Male Suicide Decedents (N = 65)*

Characteristic	<i>n</i>	%
History of Suicide Attempts		
Yes	23	35.38
No	32	49.23
Missing	10	15.38
History of Psychiatric Hospitalizations		
Yes	23	35.38
No	26	40.00
Unknown	12	18.46
Missing	4	6.15
Medical Issues		
Insomnia/Sleep Problems	24	36.92
Sexual Dysfunction	4	6.15
Amputation	3	4.62
TBI	10	15.38
Chronic Pain	3	4.62
Cancer	0	
Terminal Illness	0	
HIV/AIDS	0	
None	15	23.08
Unknown	12	18.46
Other	5	7.69
Psychiatric Diagnoses		
Major Depressive Disorder	15	23.08
Bipolar Disorder I/II	11	16.92
Posttraumatic Stress Disorder	17	26.15
Panic Disorder	12	18.46
Schizophrenia	5	7.69
None	13	20.00
Unknown	12	18.46
Other	6	9.23
Receiving Outpatient Treatment		
Individual Psychotherapy	24	36.92
Couples/Family Therapy	10	15.38
Group Therapy	5	7.69
Supportive Group (e.g., AA)	4	6.15
Medication Management	16	24.62
Receiving Pharmacotherapy		



Antidepressants	17	26.15
Mood Stabilizers	5	7.69
Antipsychotics	8	12.31
Unknown	5	7.69
Other	8	12.31
Multiple Psychiatric Medications	8	12.31

Table 4

*Means and Standard Deviations for Each Item of the Male Gender Role Stressor Inventory (MGRSI) [N = 51]*

Item	<i>n</i>	<i>M (SD)</i>
1 He believed that achievement was central to his identity.	51	6.14 (0.85)
2 When he felt that he was a failure, he found it unacceptable.	51	6.18 (0.77)
3 He believed that being in control was central to his identity.	51	5.69 (0.97)
4 When he felt powerless, he found it unacceptable.	51	5.92 (0.80)
5 He believed that being stoic was central to his identity.	51	5.16 (1.50)
6 When he felt like complaining about his troubles, he found it unacceptable.	51	4.82 (1.81)
7 He believed that indifference to emotions of his and others was central to his identity.	51	4.37 (1.90)
8 When he felt emotive, he found it unacceptable.	51	4.41 (1.66)
9 He believed that honor was central to his identity.	51	6.29 (0.81)
10 When he felt shame, he found it unacceptable.	51	5.88 (1.09)
11 He believed that maintaining his social status was central to his identity.	51	5.20 (1.36)
12 When he felt like a social outcast, he found it unacceptable.	51	5.35 (1.29)
13 He believed that being strong was central to his identity.	51	6.16 (0.99)
14 When he felt weak, he found it unacceptable.	51	6.08 (0.89)
15 He believed that being self- reliant was central to his identity.	51	6.04 (1.08)
16 When he felt reliant on others, he found it unacceptable.	51	5.45(1.33)

*Note.* *M*= mean; *SD*= standard deviation.

Table 5

*Means and Standard Deviations of the MGRSI Subscales and Total core (N = 51)*

Subscale		<i>n</i>	<i>M (SD)</i>
1	Success/Failure	51	12.31 (1.33)
2	Control/Powerlessness	51	11.61 (1.58)
3	Stoic/Emotive	51	9.98 (2.68)
4	Alexithymia/Emotional intelligence	51	8.78 (3.21)
5	Pride/Shame	51	12.18 (1.51)
6	Status/Isolation	51	10.55 (2.32)
7	Self-Efficacy/Weakness	51	12.24 (1.67)
8	Self-Reliance/Reliance on others	51	11.49 (2.19)
MGRSI Total Score		51	89.14 (9.34)

*Note.* *M* = mean; *SD* = standard deviation

Table 6

*Inter-Item Correlation Matrix of the 16-item MGRSI (N = 51)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1															
2	0.36	1														
3	0.35	0.29	1													
4	0.28	0.58	0.59	1												
5	0.25	0.18	0.09	0.03	1											
6	-0.02	-0.18	-0.18	0.05	0.31	1										
7	-0.08	-0.21	-0.1	0.01	0.12	0.29	1									
8	-0.07	-0.06	-0.14	-0.01	0.08	0.49	0.62	1								
9	0.47	0.43	0.27	0.29	0.34	0.01	0.02	-0.08	1							
10	0.28	0.41	0.02	0.29	0.22	0.12	-0.02	0.12	0.24	1						
11	0.17	0.24	0.26	0.22	0.08	-0.14	-0.13	0.12	0.07	0.18	1					
12	0.05	0.14	0.04	0.12	0.09	-0.02	-0.09	0.1	0.05	0.12	0.53	1				
13	0.64	0.44	0.32	0.42	0.44	0.2	0.04	0.01	0.37	0.48	0.13	0.03	1			
14	0.43	0.45	0.14	0.49	0.18	0.24	0.17	0.19	0.3	0.53	-0.01	0.27	0.58	1		
15	0.15	0.11	0.17	0.33	0.27	0.26	0.21	0.12	0.31	0.6	0.09	0.09	0.43	0.41	1	
16	0.23	0.25	0.2	0.37	0.47	0.24	0.04	0.02	0.3	0.58	0.19	0.21	0.39	0.48	0.66	1

Table 7

*Cronbach's Index of Internal Consistency of the MGRSI Subscales and Total core (N = 51)*

	Subscale	<i>n</i>	<i>M (SD)</i>	$\alpha$
1	Success/Failure	51	12.31 (1.33)	0.53
2	Control/Powerlessness	51	11.61 (1.58)	0.73
3	Stoic/Emotive	51	9.98 (2.68)	0.46
4	Alexithymia/Emotional intelligence	51	8.78 (3.21)	0.76
5	Pride/Shame	51	12.18 (1.51)	0.38
6	Status/Isolation	51	10.55 (2.32)	0.69
7	Self-Efficacy/Weakness	51	12.24 (1.67)	0.73
8	Self-Reliance/Reliance on others	51	11.49 (2.19)	0.78
	MGRSI Total Score	51	89.14 (9.34)	0.76

*Note.* *M* = mean; *SD* = standard deviation;  $\alpha$  = Cronbach's index of internal consistency

Table 8

*Impact of Item Deletion on the Cronbach's Index of Internal Consistency of the MGRSI Total Score (N = 51)*

		<i>n</i>	<i>M (SD)</i>	$\alpha$
1	He believed that achievement was central to his identity.	51	6.14 (0.85)	0.75
2	When he felt that he was a failure, he found it unacceptable.	51	6.18 (0.77)	0.75
3	He believed that being in control was central to his identity.	51	5.69 (0.97)	0.76
4	When he felt powerless, he found it unacceptable.	51	5.92 (0.80)	0.75
5	He believed that being stoic was central to his identity.	51	5.16 (1.50)	0.74
6	When he felt like complaining about his troubles, he found it unacceptable.	51	4.82 (1.81)	0.76
7	He believed that indifference to emotions of his and others was central to his identity.	51	4.37 (1.90)	0.78
8	When he felt emotive, he found it unacceptable.	51	4.41 (1.66)	0.76
9	He believed that honor was central to his identity.	51	6.29 (0.81)	0.75
10	When he felt shame, he found it unacceptable.	51	5.88 (1.09)	0.74
11	He believed that maintaining his social status was central to his identity.	51	5.20 (1.36)	0.76
12	When he felt like a social outcast, he found it unacceptable.	51	5.35 (1.29)	0.76
13	He believed that being strong was central to his identity.	51	6.16 (0.99)	0.74
14	When he felt weak, he found it unacceptable.	51	6.08 (0.89)	0.74
15	He believed that being self- reliant was central to his identity.	51	6.04 (1.08)	0.74
16	When he felt reliant on others, he found it unacceptable.	51	5.45(1.33)	0.73

*Note.* *M*= mean; *SD*= standard deviation;  $\alpha$  = Cronbach's index of internal consistency

Table 9

*Two-Tailed Pearson's Correlations between Life Stressors and the MGRSI Total Score (N = 51)*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	MGRSI Total Score	1																		
2	Relationship	1-Month	0.21	1																
3		1-Year	0.24	.46*	1															
4	Military Career	1-Month	0.27	.34*	.33*	1														
5		1-Year	0.26	.44*	.53*	.57*	1													
6	Civilian Career	1-Month	0.06	0.18	0.1	-0.16	0.08	1												
7		1-Year	0.26	.44*	.53*	.57*	1.00*	0.08	1											
8	Financial	1-Month	0	.37*	.39*	0.14	0.09	0.09	0.09	1										
9		1-Year	-0.06	.30*	*	0.22	0.27	0.04	0.27	.59*	1									
10	Legal	1-Month	0.31	.56*	.37*	0.17	0.06	0.17	.34*	0.1	1									
11		1-Year	*	.45*	-	0.17	.52*	*	.52*	0.21	1									
12	Health-Related	1-Month	-0.03	.45*	0.26	0.19	.52**	0.03	0.06	0.24	.53*	1								
13		1-Year	0.12	*	.34*	.30*	.33*	0.06	.33*	.31*	.33*	.33*	1							
14	Trauma	1-Month	-0.02	.61*	0.2	.47**	-0.1	*	.47*	.52*	.32*	.65*	.32*	1						
15		1-Year	0.34	.31*	.31*	.56*	.45**	-0.1	.45*	.43*	0.14	.32*	*	.32*	1					
16	Internal	1-Month	*	.31*	.31*	.45**	-0.1	*	.36*	*	0.09	.47*	.28*	.30*	1					
17		1-Year	0.09	.47*	0.03	.45**	-	0.19	.36*	0.18	.47*	.28*	.30*	1						
18	Externalizing	1-Month	0.14	.53*	.40*	.45**	0.11	0.19	.36*	.47*	.28*	.30*	1							
19	Behaviors	1-Month	0.03	.40*	.45**	.45**	0.19	0.19	.36*	.47*	.28*	.30*	1							
20		1-Year	0.07	.40*	.45**	.45**	0.19	0.19	.36*	.47*	.28*	.30*	1							
21	Internal	1-Month	0.24	*	*	0.27	.34*	0.25	.34*	0.27	0.24	.30*	.31*	1						
22		1-Year	0.02	.60*	.28*	.37**	0.04	*	.37*	.37*	.37*	.30*	.31*	.31*	1					
23	Externalizing	1-Month	0.24	*	.28*	.37**	0.04	*	.37*	.37*	.37*	.30*	.31*	.31*	1					
24	Behaviors	1-Month	.49*	.44*	.69*	0.04	*	.38*	.42*	.47*	.66*	.31*	.38*	.31*	1					
25		1-Year	.54*	.66*	.43*	.38**	0.08	*	.81*	.43*	.70*	.42*	.58*	.37*	.31	1				
26		1-Year	0.17	*	*	.81**	0.08	*	.33*	*	.29*	*	*	*	*	*	1			

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 10

*Two-Tailed Pearson's Correlations between Traumatic Life Stressors and the MGRSI Total Score at 1-Month Prior to Death (N = 51)*

Trauma Stressors	MGRSI Total Score
Anniversary of Traumatic Event	0.44
Death of a Loved One	0.32
Death of a Military Peer	0.55*
Emotional Abuse	0.1
Combat Exposure	0.39
Exposure to Dead Bodies	0.36
Exposure Violence Against Civilians	0.63**
Multiple Lifetime Traumas	0.34
Sexual Assault- Adulthood	-
Sexual Assault- Childhood	0.26
Suicide Loss	-
Torture	-0.23
Other Traumatic Stressor	0.05

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)



Table 11

*Two-Tailed Pearson's Correlations between Legal Life Stressors and the MGRSI Total Score at 1-Month Prior to Death (N = 51)*

Legal Stressors	MGRSI Total Score
Arrest/Pending Charges	0.16
Custody Case	0.25
Divorce Proceedings	.57*
DUI	0.42
Incarceration	0.27
Other Legal Stressor	0.35

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Table 12

*Simple Linear Regression Analyses to Examine Relationships between Specific Life Stressors and MGRSI Total Score at 1-Month Prior to Suicide (N = 51)*

*Divorce Proceedings and MGRSI Total Score at 1-Month Prior to Suicide*

	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Sig. (p)</i>	95% CI
Constant	85.85	2.37		36.26	1.53E-017	80.86 (90.85)
Divorce Proceedings	13.34	4.62	0.57	2.89	0.01**	3.60 (23.08)

$R^2 = .33$ . Model  $F(1, 17) = 8.36$ ,  $p < .01$

*Death of a Military Peer and MGRSI Total Score at 1-Month Prior to Suicide*

	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Sig. (p)</i>	95% CI
Constant	85.86	2.51		34.18	4.12E-017	80.56 (91.16)
Death of a Military Peer	13.14	4.90	0.55	2.68	0.02*	2.81 (23.47)

$R^2 = .30$ . Model  $F(1, 17) = 7.20$ ,  $p < .05$ .

*Witnessing Violence Against Civilians and MGRSI Total Score at 1-Month Prior to Suicide*

	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Sig. (p)</i>	95% CI
Constant	86.67	2.38		36.37	4.81E-016	81.59 (91.75)
Witnessing Violence Against Civilians	21.83	6.95	0.63	3.14	0.01**	7.02 (36.64)

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Note. CI = confidence interval.  $R^2 = .40$ . Model  $F(1, 15) = 9.88$ ,  $p < .01$ .

Table 13

*Multiple Regression Analysis to Examine Relationship between Life Stressors and MGRSI Total Score at 1-Month Prior to Suicide (N = 51)*

Included	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	Sig. ( <i>p</i> )	95% CI
Constant	88.17	2.6		33.93	0.00	82.94 (93.40)
Legal	4.96*	2.25	0.41	2.20	0.03	0.43 (9.49)
Trauma	2.85*	1.22	0.46	2.34	0.02	0.4 (5.31)
Relationship	0.06	0.92	0.01	0.07	0.95	-1.79 (1.92)
Financial	-3.75	2.16	-0.26	-1.74	0.09	-8.1 (0.6)
Stressor Index	-0.12	0.33	-0.11	-0.37	0.72	-0.79 (0.55)

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

*Note.* CI = confidence interval.  $R^2 = .25$ . Model  $F(5, 45) = 3.02$ ,  $p < .05$ .

Table 14

*Multiple Regression Analysis to Examine Relationship between Life Stressors and MGRSI Total Score at 1-Year Prior to Suicide (N = 51)*

Included	B	SE B	$\beta$	t	Sig. (p)	95% CI
Constant	86.94	1.83	-	47.53	0.00	83.26 (90.63)
Legal	-2.07	2.11	-0.19	-0.98	0.33	-6.33 (2.19)
Trauma	0.73	1.03	0.11	0.71	0.48	-1.34 (2.8)
Relationship	1.54	1.07	0.36	1.45	0.16	-0.61 (3.7)
Financial	-4.63	2.61	-0.31	-1.77	0.08	-9.89 (0.63)
Stressor Index	0.13	0.25	0.14	0.51	0.61	-0.38 (0.63)

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Note. CI = confidence interval.  $R^2 = .15$ . Model  $F(5, 45) = 1.59$ ,  $p = 0.18$  (ns).

Table 15

*Logistic Regression Analysis to Examine Relationship between Life Stressors and MGRSI Total Score at 1-Month Prior to Suicide (N = 51)*

Included	B	B (SE)	Wald	Sig. (p)	95% CI for Odds Ratio		
					Lower	OR	Upper
Constant	-0.37	0.37	1.00	0.32		0.69	
Legal	1.02	0.56	3.31	0.07	0.92	2.77	8.29
Trauma	0.20	0.23	0.75	0.39	0.77	1.23	1.94

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Note.  $R^2 = .16$  (Nagelkerke),  $.12$  (Cox & Snell). Model  $X^2(2, N = 51) = 6.39$ ,  $p < .05$ .

## Figures

Figure 1. Informed Consent Document

Dear Survivor,

We appreciate your willingness to consider our request to serve as a participant in this study. Sharing of your unique experiences will help advance our scientific approach to suicide prevention, intervention, and postvention. In the sections below, you will find information that will help you choose whether or not you want to participate in this study.

Who is conducting the research?

Dr. Marjan Holloway, a clinical psychologist, and two of her doctoral students, Ms. Jennifer Bakalar and Mr. Graham Sterling at Uniformed Services University of the Health Sciences are conducting the research. Our colleagues at TAPS, Ms. Bonnie Carroll, Ms. K. Ruocco, and Ms. Jill Harrington LaMorie are additionally serving as consultants on this study.

What is the purpose of this study?

The purpose of this study is twofold: (1) to learn about the types of life stressors that your loved one was experiencing within a year as well as within a month prior to his or her death; (2) to identify potential missed opportunities for prevention.

What am I being asked to do?

- Step 1. Read the information presented on pages 1-2 of this packet. If you choose to participate in the study, please move ahead to page 3.
- Step 2. Complete the attached survey. Please attempt to answer all questions to the best of your ability. You have the option to stop your participation at any time. However, please note that you have all three days of the TAPS conference and you can complete the survey at your own convenience.
- Step 3. Please drop off your completed or partially completed survey at the Research Table (positioned next to the TAPS Registration Table). You can do this between the hours of 8am – 5pm on Friday, October 8<sup>th</sup> and Saturday, October 9<sup>th</sup>, and between the hours of 8am – 12pm on Sunday, October 10<sup>th</sup>.

Will my information remain private?

Absolutely! The responses provided by you are anonymous and confidential. We are asking you to provide identifying information for you and/or your loved one. Information that is collected as a result of this study will be presented as a summary of all survivors' responses.

What are the potential risks of this study?

You may experience discomfort or negative thoughts and emotions as a result of completing the attached survey. Please use your judgment and stop at any time if you are too emotionally upset to continue. As you know, each survivor has a different path to coping with his or her own loss and grief. If you are currently not ready to participate in this type of research, please practice self-care and choose not to participate at this time.

How is the information collected in this research going to help others?

The information collected in this survey is aimed at (1) increasing our understanding of stressors that your loved one was experiencing prior to his or her suicide; and (2) identifying the potential missed opportunities for prevention. You may benefit by having an opportunity to share your knowledge with suicidology researchers. Individuals with suicide ideation and/or attempts may benefit from the knowledge generated through this study and the enhancement of suicide prevention, intervention, and postvention efforts within the Department of Defense. Researchers, clinicians, and policy makers may benefit from the lessons learned as shared by you and other survivors so that their suicide prevention work is informed by your knowledge and experience.

What are the resources available to me if I become distressed during my participation?

1. Tragedy Assistance Program for Survivors (TAPS); [www.taps.org](http://www.taps.org); 1-800-959-TAPS (8277)
2. National Suicide Prevention Lifeline; [www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org); 1-800-273-TALK (8255)
3. Military One Source; [www.militaryonesource.com](http://www.militaryonesource.com); 1-800-342-9647

How do I find out about the results of the study?

Within the next year, we plan to present our findings at national conferences and through the publication of scientific papers. In addition, we will be available to present our findings during next year's TAPS survivor conference as well as during TAPS webinar sessions.

Who do I contact in case of any questions and/or comments about this study?

If you have any questions or comments about this study, please contact Dr. Marjan Holloway, Department of Medical and Clinical Psychology, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814, Phone (301) 295-3271, [mholloway@usuhs.edu](mailto:mholloway@usuhs.edu). Thank you again for your time and willingness to contribute to suicide prevention research.

Figure 2. Demographic Questionnaire

**Section I. INFORMATION PERTAINING TO YOU**

1. What is your relationship to the person who died by suicide?

- ☐ Brother
- ☐ Sister
- ☐ Child
- ☐ Grandparent
- ☐ Parent
- ☐ Significant Other
- ☐ Spouse
- ☐ Other

please  
specify:

2. Are you...

☐ Male or

☐ Female

3. Your Age:

4. How would you describe your ethnicity?  
(Please mark all that apply)

- ☐ American Indian or Alaskan Native
- ☐ Asian American
- ☐ African American or Black
- ☐ Hispanic or Latino
- ☐ Native Hawaiian or Pacific Islander
- ☐ White or Caucasian
- ☐ Other

please  
specify:

5. What is your religious affiliation?

- ☐ Agnostic
- ☐ Atheist
- ☐ Buddhist
- ☐ Catholic
- ☐ Christian (Other than Catholic or Protestant)
- ☐ Hindu
- ☐ Jewish
- ☐ Muslim
- ☐ Protestant
- ☐ Spiritual but Not Religious
- ☐ None
- ☐ I don't know
- ☐ Other

please  
specify:

6. Were you living with your loved one at the time of his/her death?

☐ Yes

☐ No



## Section II. INFORMATION PERTAINING TO YOUR LOVED ONE

1. Sex ☐ Male ☐ Female

2. Age at time of death:

3. What was his/her relationship status?  
☐ Never Married ☐ Widowed  
☐ Married ☐ With Unmarried  
☐ Married but Significant Other  
Separated ☐ Unknown  
☐ Divorced

4. How would you describe his/her ethnicity?  
(Please mark all that apply)

- ☐ American Indian or Alaskan Native
- ☐ Asian American
- ☐ African American or Black
- ☐ Hispanic or Latino
- ☐ Native Hawaiian or Pacific Islander
- ☐ White or Caucasian
- ☐ Other

please  
specify:

5. What was his/her religious affiliation?

- ☐ Agnostic
- ☐ Atheist
- ☐ Buddhist
- ☐ Catholic
- ☐ Christian (Other than Catholic or Protestant)
- ☐ Hindu
- ☐ Jewish
- ☐ Muslim
- ☐ Protestant
- ☐ Spiritual but Not Religious
- ☐ None
- ☐ I don't know
- ☐ Other

please  
specify:

6. How religious and/or spiritual would you say he/she was?

- ☐ Very Religious/Spiritual
- ☐ Somewhat Religious/Spiritual
- ☐ Slightly Religious/Spiritual
- ☐ Not at All Religious/Spiritual
- ☐ Unknown

7. What was his/her level of education?

- ☐ Less than high school
- ☐ Some high school, no diploma
- ☐ High school graduate (or GED)
- ☐ Some college, no degree
- ☐ Associate/vocational degree
- ☐ Bachelor's degree
- ☐ Some graduate training, no advanced degree
- ☐ Graduate or Professional Degree
- ☐ Unknown

8. What was his/her sexual orientation?

- ☐ Bisexual
- ☐ Heterosexual
- ☐ Homosexual
- ☐ Transgender/transsexual
- ☐ Prefer not to answer
- ☐ Questioning sexual orientation at time of death
- ☐ Unknown

9. What was the branch of service for your loved one?

- ☐ U.S. Air Force
- ☐ U.S. Army
- ☐ U.S. Coast Guard
- ☐ U.S. Marine Corps
- ☐ U.S. Navy
- ☐ Civilian, Non-Military (please skip questions #10-12)
- ☐ Unknown

10. What was his/her duty status at time of death?

- ☐ Active Duty, Commissioned Officer
- ☐ Active Duty, Enlisted
- ☐ Reservist
- ☐ Retired
- ☐ Discharged
- ☐ Unknown

11. What was his/her rank at time of death?

- |                             |                              |                                  |
|-----------------------------|------------------------------|----------------------------------|
| <input type="checkbox"/> O1 | <input type="checkbox"/> O10 | <input type="checkbox"/> E9      |
| <input type="checkbox"/> O2 | <input type="checkbox"/> E1  | <input type="checkbox"/> W1      |
| <input type="checkbox"/> O3 | <input type="checkbox"/> E2  | <input type="checkbox"/> W2      |
| <input type="checkbox"/> O4 | <input type="checkbox"/> E3  | <input type="checkbox"/> W3      |
| <input type="checkbox"/> O5 | <input type="checkbox"/> E4  | <input type="checkbox"/> W4      |
| <input type="checkbox"/> O6 | <input type="checkbox"/> E5  | <input type="checkbox"/> W5      |
| <input type="checkbox"/> O7 | <input type="checkbox"/> E6  | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> O8 | <input type="checkbox"/> E7  |                                  |
| <input type="checkbox"/> O9 | <input type="checkbox"/> E8  |                                  |

12. Was your loved one ever deployed during his/her military service?

- ☐ Yes (please answer question #12a-12c below)
- ☐ No
- ☐ Unknown

12a. Estimated Total Number of Deployments:

- ☐ Unknown

Number:

12b. Estimated Length of Longest Deployment:

- ☐ Unknown

Number of months:

12c. Was he/she exposed to combat during the deployment?

- ☐ Yes      ☐ No      ☐ Unknown

13. Did your loved one have a medical history of any of the following? (Please mark all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Cancer, please specify type at end of question if known.              | <input type="checkbox"/> Traumatic injury/amputation  |
| <input type="checkbox"/> Terminal illness, please specify illness at end of question if known. | <input type="checkbox"/> Traumatic brain injury (TBI) |
| <input type="checkbox"/> Insomnia or other sleep problem                                       | <input type="checkbox"/> Chronic pain                 |
| <input type="checkbox"/> Sexual dysfunction  | <input type="checkbox"/> HIV/AIDS                     |
|  | <input type="checkbox"/> None                         |
|  | <input type="checkbox"/> Unknown                      |
|  | <input type="checkbox"/> Other                        |

please specify (Cancer):

please specify (Terminal illness):

please specify (Other):

14. Did your loved one have a history of any of the following? (please mark all that apply)

- ☐ Major Depressive Disorder (Depression)
- ☐ Bipolar Disorder (Manic-Depression)
- ☐ Posttraumatic Stress Disorder
- ☐ Panic Disorder
- ☐ Schizophrenia
- ☐ None
- ☐ Unknown
- ☐ Other

please specify:

15. Had he/she attempted suicide in the past?

- ☐ Yes (please answer question 15a below)      ☐ No
- ☐ Unknown

15a. Approximately how many times did your loved one attempt suicide?

- |                                    |  |                                  |
|------------------------------------|--|----------------------------------|
| <input type="checkbox"/> 1-2 times | <input type="checkbox"/> 5-6 times         | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> 3-4 times | <input type="checkbox"/> More than 6 times |                                  |

16. Was your loved one ever hospitalized due to mental health concerns?

- ☐ Yes ((please answer questions #16a - 16b below) ☐ No ☐ Unknown

16a. Approximately how many times was your loved one hospitalized?

- ☐ 1-2 times ☐ More than 4 times  
☐ 3-4 times ☐ Unknown

16b. When was the most recent hospitalization?

- ☐ Less than one month before death ☐ 7-12 months before death  
☐ 1-6 months before death ☐ More than 1 year before death  
☐ Unknown

17. Was your loved one receiving outpatient mental health treatment at the time of death?

- ☐ Yes (please answer question 17a below) ☐ No ☐ Unknown

17a. Please mark all that apply:

- ☐ Individual Therapy  
☐ Couples and/or Family Therapy  
☐ Group Therapy  
☐ Not sure about type of medication  
☐ Support Group (Example: Alcoholics Anonymous)  
☐ Medication Management  
☐ Antidepressants (e.g., Prozac)  
☐ Mood Stabilizers (i.e., Lithium)  
☐ Antipsychotics or Neuroleptics (e.g., Risperdal)  
☐ Not sure about type of medication  
☐ Other

please specify:

18. Approximately when did the suicide occur? (MM/YYYY)

20. Was alcohol a contributing factor to the suicide?

- ☐ Yes ☐ No ☐ Unknown

19. What was the **primary** method of suicide? (Please mark **only one**)

- ☐ Firearm ☐ Drug Overdose  
☐ Hanging/Suffocation ☐ Poisoning  
☐ Other ☐ Unknown

please specify:

Figure 3. Life Stressors Checklist

**Section III. LIFE STRESSORS CHECKLIST**

Instructions: In this section, please indicate the life stressors that, from your perspective, your loved one experienced within *1-month* and *1-year* of the time of his or her suicide. (Please mark **all** stressors that you observed, perceived, or currently believe to have been applicable within 1-month and 1-year prior to suicide)

**Relationships**

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Loneliness	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Relationship	<input type="checkbox"/>	<input type="checkbox"/>
Perceived Failure in Relationship	<input type="checkbox"/>	<input type="checkbox"/>
Perceived Lack of Social Support	<input type="checkbox"/>	<input type="checkbox"/>
Non-Violent Relationship Conflict	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Dysfunction	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Identity	<input type="checkbox"/>	<input type="checkbox"/>
Violent Relationship Conflict - Victim	<input type="checkbox"/>	<input type="checkbox"/>
Violent Relationship - Perpetrator	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Relationship Stressor	<input type="checkbox"/>	<input type="checkbox"/>
please specify:	<div></div>	

### Military Career

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Article 15/UCMJ	<input type="checkbox"/>	<input type="checkbox"/>
Command Directed Evaluation	<input type="checkbox"/>	<input type="checkbox"/>
Conflict with Military Peer(s)	<input type="checkbox"/>	<input type="checkbox"/>
Conflict with Military Superior(s)	<input type="checkbox"/>	<input type="checkbox"/>
Deployment - Anticipating Upcoming Deployment	<input type="checkbox"/>	<input type="checkbox"/>
Deployment - Multiple Deployments	<input type="checkbox"/>	<input type="checkbox"/>
Deployment - Recent Return from Deployment	<input type="checkbox"/>	<input type="checkbox"/>
Dissatisfaction with Military Service	<input type="checkbox"/>	<input type="checkbox"/>
Involuntary Discharge	<input type="checkbox"/>	<input type="checkbox"/>
Low Unit Morale	<input type="checkbox"/>	<input type="checkbox"/>
Reduction of Force - Removal of Weapons	<input type="checkbox"/>	<input type="checkbox"/>
Retirement - Pending OR Recent	<input type="checkbox"/>	<input type="checkbox"/>
Separation - Pending OR Recent	<input type="checkbox"/>	<input type="checkbox"/>
Turned Down for Promotion	<input type="checkbox"/>	<input type="checkbox"/>
Workplace Harassment	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Military Career Stressor	<input type="checkbox"/>	<input type="checkbox"/>

please specify:

### Civilian Career

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Burnout	<input type="checkbox"/>	<input type="checkbox"/>
Conflict with Peer(s)	<input type="checkbox"/>	<input type="checkbox"/>
Conflict with Supervisor(s)	<input type="checkbox"/>	<input type="checkbox"/>
Job Dissatisfaction	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Job	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Job Status	<input type="checkbox"/>	<input type="checkbox"/>
Retirement - Pending OR Recent	<input type="checkbox"/>	<input type="checkbox"/>
Turned Down for Promotion	<input type="checkbox"/>	<input type="checkbox"/>
Unemployment	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Civilian Career Stressor	<input type="checkbox"/>	<input type="checkbox"/>

please specify:

### Financial

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Bankruptcy	<input type="checkbox"/>	<input type="checkbox"/>
Debt	<input type="checkbox"/>	<input type="checkbox"/>
Eviction Notice OR Eviction from Personal Residence	<input type="checkbox"/>	<input type="checkbox"/>
Foreclosure	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Financial Stressor	<input type="checkbox"/>	<input type="checkbox"/>

please specify:

**Legal**

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Arrest and Pending Charges	<input type="checkbox"/>	<input type="checkbox"/>
Custody Case	<input type="checkbox"/>	<input type="checkbox"/>
Divorce Proceedings	<input type="checkbox"/>	<input type="checkbox"/>
Driving Under the Influence (DUI)	<input type="checkbox"/>	<input type="checkbox"/>
Incarceration	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Legal Stressor	<input type="checkbox"/>	<input type="checkbox"/>
please specify:		

**Health-Related**

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Amputation	<input type="checkbox"/>	<input type="checkbox"/>
Anxiety/Panic Attacks	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Pain	<input type="checkbox"/>	<input type="checkbox"/>
Medication Side Effects	<input type="checkbox"/>	<input type="checkbox"/>
New Medical and/or Psychiatric Diagnosis	<input type="checkbox"/>	<input type="checkbox"/>
Physical Illness	<input type="checkbox"/>	<input type="checkbox"/>
Physical Injury	<input type="checkbox"/>	<input type="checkbox"/>
Psychotic Episode (Hallucinations and/or Delusions)	<input type="checkbox"/>	<input type="checkbox"/>
Recent Medical Hospitalization	<input type="checkbox"/>	<input type="checkbox"/>
Sleep Problems	<input type="checkbox"/>	<input type="checkbox"/>
Substance Abuse or Dependence	<input type="checkbox"/>	<input type="checkbox"/>
Traumatic Brain Injury	<input type="checkbox"/>	<input type="checkbox"/>
Worsening of Medical and/or Psychiatric Symptoms	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Health-Related Stressor	<input type="checkbox"/>	<input type="checkbox"/>
please specify:		

## Trauma

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Anniversary of Traumatic Event	<input type="checkbox"/>	<input type="checkbox"/>
Death of a Loved One	<input type="checkbox"/>	<input type="checkbox"/>
Death of a Military Peer	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Abuse	<input type="checkbox"/>	<input type="checkbox"/>
Exposure to Military Combat	<input type="checkbox"/>	<input type="checkbox"/>
Exposure to Dead Bodies	<input type="checkbox"/>	<input type="checkbox"/>
Exposure to Violence Against Civilians	<input type="checkbox"/>	<input type="checkbox"/>
History of Multiple Lifetime Traumas	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Assault/Rape - During Adulthood	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Assault/Rape - During Childhood	<input type="checkbox"/>	<input type="checkbox"/>
Suicide Loss	<input type="checkbox"/>	<input type="checkbox"/>
Torture	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Trauma Stressor	<input type="checkbox"/>	<input type="checkbox"/>

please specify:

## Internal

	WITHIN 1-MONTH OF DEATH	WITHIN 1-YEAR OF DEATH
Gender Role - Strict Feminine or Masculine Ideals	<input type="checkbox"/>	<input type="checkbox"/>
Sense of Helplessness	<input type="checkbox"/>	<input type="checkbox"/>
Perceiving Self as a Burden to Others	<input type="checkbox"/>	<input type="checkbox"/>
Perceiving Self as Unlovable	<input type="checkbox"/>	<input type="checkbox"/>
Perceiving Self as a Failure in Life	<input type="checkbox"/>	<input type="checkbox"/>
Shame	<input type="checkbox"/>	<input type="checkbox"/>
OTHER Internal Stressor	<input type="checkbox"/>	<input type="checkbox"/>

please specify:

## OTHER

#1 Stressor: ....

#2 Stressor: ....

#3 Stressor: ....

Figure 4. Male Gender Role Stressor Inventory (MGRSI)

#### Section IV. MALE STRESSORS

Instructions: Please only complete this section if your loved one who died by suicide was a **male** (otherwise, please skip to the next section on page 11). Please indicate the extent to which each statement applied to your loved one.

#### MALE STRESSORS

	Extremely Unlike Him	Very Much Unlike Him	Somewhat Unlike Him	Indifferent	Somewhat Like him	Very Much Like Him	Extremely Like Him
1. He believed that achievement was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. When he felt that he was a failure, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. He believed that being in control was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. When he felt powerless, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. He believed that being stoic was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. When he felt like complaining about his troubles, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. He believed that indifference to emotions of his and others was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. When he felt emotive, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. He believed that honor was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. When he felt shame, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. He believed that maintaining his social status was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. When he felt like a social outcast, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. He believed that being strong was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. When he felt weak, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. He believed that being self-reliant was central to his identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. When he felt reliant on others, he found it unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## References

- Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist*, 58(1), 5.
- American Foundation for Suicide Prevention. (2010). Risk factors for suicide. *About Suicide*. Retrieved Oct 12, 2010, from [http://www.afsp.org/index.cfm?page\\_id=05147440-E24E-E376-BDF4BF8BA6444E76](http://www.afsp.org/index.cfm?page_id=05147440-E24E-E376-BDF4BF8BA6444E76)
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders*. (4<sup>th</sup> ed. TR). Washington, DC: Author.
- Austin, M., Janosky, J., & Murphy, H. (2003). Increased corticotropin-releasing hormone immunoreactivity in monoamine-containing pontine nuclei of depressed suicide men. *Molecular Psychiatry*, 8(3), 324-332. doi: <http://dx.doi.org/10.1038/sj.mp.4001250>
- Bem, S. L. (1981). Gender schema theory: a cognitive account of sex typing. *Psychological Review*, 88, 4, 354-364.
- Berger, J. M., Levant, R., McMillan, K. K., Kelleher, W., & Sellers, A. (2005). Impact of Gender Role Conflict, Traditional Masculinity Ideology, Alexithymia, and Age on Men's Attitudes Toward Psychological Help Seeking. *Psychology of Men & Masculinity*, 6(1), 73.
- Berman, M. E., Bradley, T. P., Fanning, J. R., & McCloskey, M. S. (2009). Self-focused attention reduces self-injurious behavior in alcohol-intoxicated men. *Substance Use & Misuse*, 44(9-10), 1280-1297.
- Berman, A., Jobes, D., Bradley, J., Kemp, J., Carroll, B., Litts, D., Certain, R. G., McKeon, R., Garelick, J. C., Proietto, P., Green, R., Volpe, P., Holloway, M. G., & Werbel, A. (2010).

- The challenge and the promise: strengthening the force, preventing suicide and saving lives. *Task Force on the Prevention of Suicide by Members of the Armed Forces*. Washington, DC: Department of Defense.
- Black, S. A., Gallaway, M. S., Bell, M. R., & Ritchie, E. C. (2011). Prevalence and Risk Factors Associated With Suicides of Army Soldiers 2001–2009. *Military Psychology*, 23(4), 433-451.
- Blazina, C., & Watkins Jr., C. E. (1996). Masculine gender role conflict: effects on college men's psychological well-being, chemical substance usage, and attitudes toward help-seeking. *Journal of Counseling Psychology*, 43, 461-465.
- Blazina, C., Pisecco, S., & O'Neil, J. M. (2005). An Adaptation of the Gender Role Conflict Scale for Adolescents: Psychometric Issues and Correlates With Psychological Distress. *Psychology of Men & Masculinity*, 6(1), 39.
- Blazina, C., Settle, A., & Eddins, R. (2008). Gender Role Conflict and Separation-Individuation Difficulties: Their Impact on College Men's Loneliness. *The Journal of Men's Studies*, 16(1), 69-81.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98.
- Bosson, J. K., Vandello, J. A., Burnaford, R. M., Weaver, J. R., & Wasti, S. A. (2009). Precarious manhood and displays of physical aggression. *Personality and Social Psychology Bulletin*, 35(5), 623-634.

- Breiding, M. J. (2004). Observed Hostility and Dominance as Mediators of the Relationship Between Husbands' Gender Role Conflict and Wives' Outcomes. *Journal of Counseling Psychology, 51*(4), 429.
- Brent, D. A., Baugher, M., Bridge, J., Chen, T., & Chiappetta, L. (1999). Age-and sex-related risk factors for adolescent suicide. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*(12), 1497-1505.
- Brent, D. A., Perper, J. A., Moritz, G., Allman, C., Friend, A., Roth, C., et al. (1993). Psychiatric risk factors for adolescent suicide: a case-control study. *Journal of the American Academy of Child & Adolescent Psychiatry, 32*(3), 521-529.
- Brody, L. R. (2000). The socialization of gender differences in emotional expression: display rules, infant temperament, and differentiation. In A. H. Fischer (Ed.), *Gender and Emotion, Social Psychological Perspectives*, (pp. 24-47). New York, NY: Cambridge University Press.
- Brooks, G. R. & Gilbert, L., A. (1995). Men in families: Old constraints, new possibilities, In R. Levant & W. Pollack (Eds.), *A new psychology of men*, (pp. 252- 279). New York, NY: BasicBooks.
- Campbell, J. L., & Snow, B. M. (1992). Gender role conflict and family environment as predictors of men's marital satisfaction. *Journal of Family Psychology, 6*(1), 84.
- Center for Disease Control and Prevention. (2011). Web-based Injury Statistics Query and Reporting System (WISQARS). Retrieved March 6, 2012, from <http://www.cdc.gov/injury/wisqars/index.html>

- Chiarelli, P. W. (2010). *Army Health Promotion Risk Reduction Suicide Prevention Report 2010*: Daine Publishing.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7(3), 309.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological bulletin*, 98(2), 310-357.
- Corso, P. S., Mercy, J. A., Simon, T. R., Finkelstein, E. A., & Miller, T. R. (2007). Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *American Journal of Preventive Medicine*, 32(6), 474-482. e472.
- Curtis, R. C. & Hirsch I. (2003). Relational approaches to psychoanalytic psychotherapy. In A. Gurman & S. Messer (Eds.), *Essential psychotherapies, theory and practice* (pp. 69-106). New York, NY: Guilford Press.
- Dumais, A., Lesage, A., Alda, M., Rouleau, G., Dumont, M., Chawky, N. (2005). Risk factors for suicide completion in major depression: a case-control study of impulsive and aggressive behaviors in men. *American Journal of Psychiatry*, 162(11), 2116-2124.
- Eaton K.M., Messer S.C., Garvey Wilson A.L., Hoge C.W. (2006). Strengthening the validity of population-based suicide rate comparisons: an illustration using U.S. military and civilian data. *Suicide and Life Threatening Behavior*. 36(2):182-191.

- Eisler, R. M., & Skidmore, J. R. (1987). Masculine gender role stress. *Behavior Modification*, 11(2), 123-136.
- Field, A. P. (2009). *Discovering statistics using SPSS*: SAGE publications Ltd.
- Fischer, A. R., & Good, G. E. (1997). Men and psychotherapy: An investigation of alexithymia, intimacy, and masculine gender roles. *Psychotherapy: Theory, Research, Practice, Training Summer*, 34(2), 160-170.
- Fragoso, J. M., & Kashubeck, S. (2000). Machismo, gender role conflict, and mental health in Mexican American men. *Psychology of Men & Masculinity*, 1(2), 87.
- Gahm, G., & Reger, M. (2008). Army Suicide Event Report (ASER): Calendar year 2007. *Tacoma, WA: Suicide Risk Management and Surveillance Office, Madigan Army Medical Center.*
- Good, G., Dell, D., & Mintz, L. (1989). Male role and gender role conflict: Relations to help seeking in men. *Journal of Counseling Psychology*, 36(3), 295-300.
- Good, G., & Mintz, L. (1990). Gender role conflict and depression in college men: Evidence for compounded risk. *Journal of Counseling and Development*, 69(1), 17-21.
- Good, G. E., & Wood, P. K. (1995). Male gender role conflict, depression, and help seeking: Do college men face double jeopardy? *Journal of Counseling & Development*, 74(1), 70-75.
- Groeschel, B. L., Wester, S. R., & Sedivy, S. K. (2010). Gender role conflict, alcohol, and help seeking among college men. *Psychology of Men & Masculinity*, 11(2), 123.

- Hammer, J. H. & Vogel, D. L. (2010). Men's help seeking for depression: the efficacy of male-sensitive brochure about counseling. *The Counseling Psychologist*, 38, 2, 296-313. doi: 10.1177/0011000009351937
- Hayes, J. A. & Mahalik, J. R. (2000). Gender role conflict and psychological distress in male counseling center clients. *Psychology of Men & Masculinity*, 1, 2, 116-125.
- Heikkinen, M., Aro, H., & Lönnqvist, J. (1994). Recent life events, social support and suicide. *Acta Psychiatrica Scandinavica*, 89, 65-72.
- Hill, W. G., & Donatelle, R. J. (2004). The impact of gender role conflict on multidimensional social support in older men. *International Journal of Men's Health*, 4(3), 267-276.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988.
- Hoge CW, Auchterlonie JL, Milliken CS. Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *JAMA*. Mar 1 2006;295(9):1023-1032.
- Houle, J., Mishara, B. L., & Chagnon, F. (2008). An empirical test of a mediation model of the impact of traditional male gender role on suicidal behavior in men. *Journal of Affective Disorders*, 107, 37-43.
- Hyman, J., Ireland, R., Frost, L., & Cottrell, L. (2012). Suicide incidence and risk factors in an active duty united states military population. *American Journal of Public Health*, 0, 1-9.
- Jansz, J. (2000). Masculine identity and restrictive emotionality. In A. H. Fischer (Ed.), *Gender and Emotion, Social Psychological Perspectives*, (pp. 166-186). New York, NY: Cambridge University Press.

- Joe, S., & Kaplan, M. S. (2001). Suicide among African American men. *Suicide and Life-Threatening Behavior*, 31, 106-121.
- Jakupcak, M., Osborne, T. L., Michael, S., Cook, J. W., & McFall, M. (2006). Implications of masculine gender role stress in male veterans with posttraumatic stress disorder. *Psychology of Men & Masculinity*, 7(4), 203.
- Kaslow, N. J., & Gilman Aronson, S. (2004). Recommendations for Family Interventions Following a Suicide. *Professional psychology: Research and practice*, 35(3), 240.
- Kennedy-Moore, E., & Watson, J. C. (2001). *Expressing emotion: Myths, realities, and therapeutic strategies*: The Guilford Press.
- Kilmartin, C. (2005). Depression in men: communication, diagnosis and therapy. *Practicing Medicine*, 2, 1, 95-99.
- Kurpius, S. E. R., Lucart, A. L. (2000). Military and civilian undergraduates: attitudes toward women, masculinity, and authoritarianism. *Sex Roles*, 43, 3/4, 255-265.
- Krantz, D. S., Grunberg, N. E., & Baum, A. (1985). Health psychology. *Annual Review of Psychology*, 36, 349-383. doi: 10.1146/annurev.ps.36.020185.002025
- Kung, H.S., D. L. Hoyert, J. Xu, & Murphy, S.L. (2008, January). Deaths: Final Data for 2005. *National Vital Statistics Reports*, 56(10). Retrieved January 16, 2008 from: [http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56\\_10.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf).
- Lester, D. (1993). Testosterone and suicide: an explanation of sex differences in fatal suicidal behavior. *Personality and individual differences*, 15(3), 347-348.

- Levant, R. F. (1995). Toward the reconstruction of masculinity. In R. Levant & W. Pollack (Eds.), *A new psychology of men*, (pp. 229- 251). New York, NY: BasicBooks.
- Levant, R. F., Halter, M. J., Hayden, E. W., & Williams, C. M. (2009). The efficacy of alexithymia reduction treatment: a pilot study. *The Journal of Men's Studies*, 17, 1, 75-84. doi: 10.3149/jms.1701.75
- Lorber, W., & Garcia, H. (2010). Not Supposed to Feel This: Traditional Masculinity in Psychotherapy with Male Veterans Returning from Iraq and Afghanistan. *Psychotherapy*, 47(3), 296-305.
- Mahalik, J. R. (1999). Incorporating a gender role strain perspective in assessing and treating men's cognitive distortions. *Professional Psychology: Research and Practice*, 30, 4, 333-340.
- Mahalik, J. R., & Cournoyer, R. J. (2000). Identifying gender role conflict messages that distinguish mildly depressed from nondepressed men. *Psychology of Men & Masculinity*, 1(2), 109.
- Mahalik, J. R., Locke, B. D., Theodore, H., Cournoyer, R. J., & Lloyd, B. F. (2001). A cross-national and cross-sectional comparison of men's gender role conflict and its relationship to social intimacy and self-esteem. *Sex Roles*, 45(1), 1-14.
- Magovcevic, M., & Addis, M. E. (2005). Linking Gender-Role Conflict to Nonnormative and Self-Stigmatizing Perceptions of Alcohol Abuse and Depression. *Psychology of Men & Masculinity*, 6(2), 127.
- Martin, J., Ghahramanlou-Holloway, M., Lou, K., & Tucciarone, P. (2009). A comparative review of US military and civilian suicide behavior: Implications for OEF/OIF suicide



- prevention efforts. *Journal of Mental Health Counseling*, 31(2), 101-118.
- Martin, G., Bergen, H. A., Richardson, A. S., Roeger, L., & Allison, S. (2004). Sexual abuse and suicidality: gender differences in a large community sample of adolescents. *Child Abuse & Neglect*, 28(5), 491-503.
- Marttunen, M. J., Henriksson, M. M., Isometsä, E., Heikkinen, M. E., Aro, H. M., & Lönnqvist, J. (1998). Completed suicide among adolescents with no diagnosable psychiatric disorder. *Adolescence*, 33, 669-682.
- Marttunen, M. J., Aro, H. M., & Lönnqvist, J. K. (1993). Precipitant stressors in adolescent suicide. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(6), 1178-1183.
- McVittie, C., & Willock, J. (2006). "You Can't Fight Windmills": How Older Men Do Health, Ill Health, and Masculinities. *Qualitative Health Research*, 16(6), 788-801.
- Monk, D., & Ricciardelli, L. A. (2003). Three dimensions of the male gender role as correlates of alcohol and cannabis involvement in young Australian men. *Psychology of Men & Masculinity*, 4(1), 57.
- National Institute of Mental Health (2009). Background on education materials. *Men and Depression*. Retrieved Mar 27, 2012, from <http://www.nimh.nih.gov/health/topics/depression/men-and-depression/background-on-education-materials.shtml>
- Nock, M. K., Borges, G., Bromet, E. J., Cha, C. B., Kessler, R. C., & Lee, S. (2008). Suicide and suicidal behavior. *Epidemiologic reviews*, 30(1), 133-154.

- Nock, M. K., & Kessler, R. C. (2006). Prevalence of and risk factors for suicide attempts versus suicide gestures: Analysis of the National Comorbidity Survey. *Journal of Abnormal Psychology, 115*(3), 616.
- O'Neil, J. M., Helms, B. J., Gable, R. K., David, L., & Wrightsman, L. S. (1986). Gender-role conflict scale: College men's fear of femininity. *Sex Roles, 14*(5), 335-350.
- O'Neil, J. M., Good, G. E., & Holmes, S. (1995). Fifteen years of theory and research on men's gender role conflict: new paradigms for empirical research. In R. Levant & W. Pollack (Eds.), *A new psychology of men*, (pp. 164- 206). New York, NY: BasicBooks.
- O'Neil, J. M. (2008). Summarizing 25 years of research on men's gender role conflict using the gender role conflict scale. *The Counseling Psychologist, 36*(3), 358-445.
- Oquendo, M., Bongiovi-Garcia, M., Galfalvy, H., Goldberg, P., Grunebaum, M., Burke, A. (2007). Sex differences in clinical predictors of suicidal acts after major depression: a prospective study. *American Journal of Psychiatry, 164*(1), 134-141.
- Pleck, J. H. (1981). *The myth of masculinity*. Cambridge, MA: MIT Press.
- Pleck, J. H. (1995). The gender role strain paradigm: An update. *A new psychology of men* (pp. 11-32). New York, NY: Basic Books; US.
- Prochaska, J. O. & Norcross, J. C. (2007). *Systems of psychotherapy, a transtheoretical analysis* (6<sup>th</sup> edition). Belmont, CA: Thomson Brooks/Cole.
- Qin, P., Mortensen, P. B. O., Agerbo, E., Westergaard-Nielsen, N. & Eriksson, T. (2000). Gender differences in risk factors for suicide in Denmark. *The British journal of psychiatry, 177*(6), 546-550.

- Ramchand, R., Acosta, J., Burns, R. M., Jaycox, L. H., & Pernin, C. G. (2011). *The war within: Preventing suicide in the US military* (Vol. 953): Rand Corp.
- Reidy, D. E., Dimmick, K., MacDonald, K., & Zeichner, A. (2009). The relationship between pain tolerance and trait aggression: effects of sex and gender role. *Aggressive behavior*, 35(5), 422-429.
- Reinecke, M. A. & Freeman, A. (2003). Cognitive therapy. In A. Gurman & S. Messer (Eds.), *Essential psychotherapies, theory and practice* (pp. 224-271). New York, NY: Guilford Press.
- Reger, M. A., Gahm, G. A., Kinn, J. T., Luxton, D. D., Skopp, N. A., & Bush, N. E. (2011). Department of Defense Suicide Event Report (DoDSER) Calendar Year 2010 Annual Report. National Center for Telehealth and Technology: Tacoma, WA.
- Ritchie, E. C., Keppler, W. C., Rothberg, J. M. (2003). Suicidal admissions in the United States military. *Military Medicine*, 168(3). 177-181.
- Rochlen, A. B., Paterniti, D. A., Epstein, R. M., Duberstein, P., Willeford, L., & Kravitz, R. L. (2009). Barriers in diagnosing and treating men with depression: a focus group report. *American Journal of Men's Health*, 4(2), 167.
- Roy, A. (2001). Characteristics of cocaine-dependent patients who attempt suicide. *American Journal of Psychiatry*, 158(8), 1215-1219.
- Ruscio, B. A., Jones, B. H., Bullock, S. H., Burnham, B. R., Canham-Chervak, M., Rennix, C. P. (2010). A process to identify military injury prevention priorities based on injury type and limited duty days. *American journal of preventive medicine*, 38(1), S19-S33.

- Rutz W. (1999). Improvement of care for people suffering from depression: the need for comprehensive educations. *International Clinical Psychopharmacology*; 14(Suppl 3):S27-33.
- Sánchez, F. J., Westefeld, J. S., Liu, W. M., & Vilain, E. (2010). Masculine gender role conflict and negative feelings about being gay. *Professional psychology: Research and practice*, 41(2), 104.
- Schaub, M., & Williams, C. (2007). Examining the relations between masculine gender role conflict and men's expectations about counseling. *Psychology of Men & Masculinity*, 8(1), 40.
- Schwartz, J. P., Waldo, M., & Daniel, D. (2005). Gender-Role Conflict and Self-Esteem: Factors Associated With Partner Abuse in Court-Referred Men. *Psychology of Men & Masculinity*, 6(2), 109.
- Sharpe, M. J. (1994). *Gender role and psychological well-being in adult men*. Doctoral Dissertation. U Missouri, Columbia, MO, US. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc3&AN=1996-73542-001>
- Sharpe, M. J., Heppner, P. P., & Dixon, W. A. (1995). Gender role conflict, instrumentality, expressiveness, and well-being in adult men. *Sex Roles*, 33(1), 1-18.
- Shepard, D.S. (2002). A negative state of mind: Patterns of depressive symptoms among men with high gender role conflict. *Psychology of Men and Masculinity*, 3, 3-8.
- Simonsen, G., Blazina, C., & Watkins Jr, C. E. (2000). Gender role conflict and psychological well-being among gay men. *Journal of Counseling Psychology*, 47(1), 85.

- Steinfeldt, J. A., Steinfeldt, M. C., England, B., & Speight, Q. L. (2009). Gender role conflict and stigma toward help-seeking among college football players. *Psychology of Men & Masculinity, 10*(4), 261.
- Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review, 107*(3), 411.
- Thompkins, C. D., & Rando, R. A. (2003). Gender role conflict and shame in college men. *Psychology of Men & Masculinity, 4*(1), 79.
- Tokar, D. M., Fischer, A. R., Schaub, M., & Moradi, B. (2000). Masculine gender roles and counseling-related variables: Links with and mediation by personality. *Journal of Counseling Psychology, 47*(3), 380.
- Tripodanakis, J., Markianos, M., Rouvali, O., & Istikoglou, C. (2007). Gonadal axis hormones in psychiatric male patients after a suicide attempt. *European Archives of Psychiatry and Clinical Neuroscience, 257*(3), 135-139.
- Verona, E., Sachs-Ericsson, N., & Joiner, T. E. (2004). Suicide attempts associated with externalizing psychopathology in an epidemiological sample. *American Journal of Psychiatry, 161*(3), 444-451.
- United States Census Bureau (2006). Facts for features: women's history month. *United States Census Bureau*. Retrieved on October 6, 2011 from [http://www.census.gov/PressRelease/www/releases/archives/facts\\_for\\_features\\_special\\_editions/006232.html](http://www.census.gov/PressRelease/www/releases/archives/facts_for_features_special_editions/006232.html)
- Vogel, D. L., Heimerdinger-Edwards, S. R., Hammer, J. H., & Hubbard, A. (2011). 'Boys don't

- cry': Examination of the links between endorsement of masculine norms, self-stigma, and help-seeking attitudes for men from diverse backgrounds. *Journal of Counseling Psychology*, 58(3), 368.
- Wallen, K. (1996). Nature needs nurture: the interaction of hormonal and social influences on the development of behavioral sex differences in rhesus monkeys. *Hormones and Behavior*, 30(4), 364-378.
- Washington, C. S. (1979, May). Men counseling men: redefining the male machine. *Personnel and Guidance Journal*. 462-463.
- Wester, S. R., Kuo, B. C. H., & Vogel, D. L. (2006). Multicultural coping: Chinese Canadian adolescents, male gender role conflict, and psychological distress. *Psychology of Men & Masculinity*, 7(2), 83.
- Wester, S. R., Arndt, D., Sedivy, S. K., & Arndt, L. (2010). Male police officers and stigma associated with counseling: The role of anticipated risks, anticipated benefits and gender role conflict. *Psychology of Men & Masculinity*, 11(4), 286.
- Wide, J., Mok, H., McKenna, M., & Ogrodniczuk, J. S. (2011). Effect of gender socialization on the presentation of depression among men. *Canadian Family Physician*, 57(2), 74.
- World Health Organization. (2007). Suicide Prevention. Retrieved March 7, 2012, from [http://www.who.int/mental\\_health/prevention/suicide/suicideprevent/en/](http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/)